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**Gateway Clean Air Program  
Annual RapidScreen Report  
January 2001 – December 2001**

Prepared for:

**Missouri Department of Natural Resources**

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July 2002

# Acknowledgments

The author wishes to acknowledge the support and input given by a number of individuals and organizations. Particular thanks are extended to the following contributors:

Haskins Hobson, MDNR for providing many helpful comments and suggestions.

ESP Program Operations Division for providing data access and operational information.

Dr. Judith Zwicker, RS=A for preparing information on Quality Assurance.

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# Glossary of Terms and Abbreviations

Basic I/M	A set of vehicle I/M program inspection requirements defined by the U.S. EPA that may be used in areas not required to implement an Enhanced I/M program; the inspection procedure usually involves idle testing
Clean Screening	The process of identifying vehicles with low emissions that are then exempt from emission inspection at an inspection station
CO	Carbon monoxide
CO2	Carbon dioxide
Cutpoint	An emissions level used to classify vehicles as having met an emissions inspection requirement
Enhanced I/M	A set of more rigorous vehicle I/M program inspection requirements defined by the U.S. EPA that usually involves IM240 testing
EPA	United States Environmental Protection Agency
ESP Missouri	Environmental Systems Products Missouri Inc., the MDNR contractor for the Gateway Clean Air Program
Excess Emissions	Vehicle emissions that exceed an I/M cutpoint
FTP	Federal Test Procedure
g/mi	Grams per mile, the units of measurement for FTP and IM240 tests
GVWR	Gross Vehicle Weight Rating
HC	Hydrocarbons
High Emitter Identification	The on-road identification of vehicles with high emission levels
I/M	Inspection and maintenance program
Idle Test	A tailpipe emission test conducted when the vehicle is idling and the transmission is not engaged
IM240 Test	A loaded-mode transient tailpipe emission test conducted when the vehicle is driven for up to 240 seconds on a dynamometer, following a specific speed trace that simulates real world driving conditions
kW/t	Kilowatts per metric ton, the units of measurement for vehicle specific power
LDGV	Light-duty Gasoline-powered Vehicle

LDGT	Light-duty Gasoline-powered Truck
LEI	Low Emitter Index
MDNR	Missouri Department of Natural Resources, the oversight agency for the Gateway Clean Air Program
MDOR	Missouri Department of Revenue, the state agency responsible for vehicle registration renewal and tracking
NOx	Oxides of nitrogen, usually measured as nitric oxide (NO)
Repairable Emissions	The emission reductions that can be obtained by repairing a vehicle. The amount of repairable emissions is equal to or greater than the amount of excess emissions
RS≡A	Remote Sensing Air Inc., a St. Louis-based company that ESP Missouri has contracted to conduct RapidScreen quality assurance
RSD	Remote Sensing Device
VIN	Vehicle Identification Number
VDR	Vehicle On-road Record
VMR	Vehicle RapidScreen Mailing Record
VMT	Vehicle Miles Traveled
VSP	Vehicle Specific Power; estimated engine power divided by the mass of the vehicle
VTR	Vehicle Test Record

## **I. Summary**

The Missouri Department of Natural Resources operates a vehicle emissions inspection and maintenance program to improve air quality in the greater St. Louis metropolitan area. The Gateway Clean Air Program consists of an enhanced biennial I/M program in Jefferson County, St. Charles County, St. Louis County and St. Louis City and an annual basic I/M program in Franklin County. The centralized program is operated by a contractor, Environmental Systems Products Missouri.

The Gateway Clean Air Program is the first I/M program in the country to integrate clean screening from the outset as a means of improving motorist convenience and reducing the overall number of inspection lanes required. The program design includes a two model year new vehicle exemption accounting for 11-15% of vehicles with a further 25%-29% of vehicles to be selected using clean screening methods to meet a combined 40% clean screening goal. The contractor is required to report annually on the effectiveness of the clean screening program known as RapidScreen.

Preliminary remote sensing data collection started in October 1999. The first pilot RapidScreen notices were issued in the first quarter of 2000. Full RapidScreen processing and full testing at stations commenced in April 2000. The first RapidScreen audit report<sup>1</sup> covered the preliminary six-month startup period from October 1999 through March 2000 and the first twelve months of full program operations from April 2000 through March 2001. In order to bring the reporting back onto a calendar year cycle, this report covers the full calendar year for 2001.

### **A. *RapidScreen Effectiveness***

RapidScreen notices were sent to 174,429 owners of vehicles due to renew registration from January 1, 2001 through December 31, 2001. During this period 125,663 vehicle owners took advantage of the program. This 72% redemption rate represents 18% of St. Louis area vehicle registrations for the period. New model vehicles exemptions are estimated to be 15% of registrations during the period. Therefore, with total exemptions of 33%, the program fell short of achieving the 40% clean screening goal. The elimination of low emitter indexing in the fall of 2000 has made attainment of the RapidScreen goal of exempting 40% of the vehicles more difficult for the contractor to achieve. Nevertheless, one third of vehicle owners benefited from the clean screening program. Section III of this report contains specific information on the number of on-road measurements and the monthly RapidScreen notices issued and redeemed.

Quality control and quality assurance continue to be important elements of the success of the RapidScreen program. The tag editing of license plate images is controlled using 10% quality assurance samples. The average QA error rate in the RapidScreen notice processing is 0.4% from tag edit errors and 1.4% from other sources. All errors identified are corrected. Additional statistics on quality control and quality assurance activities are provided in section III. C.

The emissions effectiveness of the RapidScreen program has been calculated using the results of a random 2% audit sample of vehicles identified as clean by the RapidScreen program. Instead of receiving a RapidScreen notice, these vehicles are tested at the inspection stations. The audit

sample test results are then used to calculate the air quality impact of exempting the RapidScreen vehicles from a station-based test. The calculations are described in section IV and section VII. The RapidScreen program retained 96% of HC tailpipe reductions, 87% of gas cap related HC reductions, 97% of CO reductions and 97% of NOx reductions of the Gateway Clean Air Program. This compares to 96.1% of HC tailpipe reductions, 80% of gas cap related HC reductions, 97.2% of CO reductions and 96.1% of NOx reductions during the startup period. Therefore, the program continues to meet the goal of retaining 95% of HC tailpipe emission reductions.

### ***B. On-Road Fleet Emissions***

The approximately 4.9 million measurements collected for the RapidScreen program have been used to establish the emissions characteristics of the on-road fleet. The reduced emissions level of vehicles repaired as a result of the Gateway Clean Air Program is clearly observable in the on-road emissions. These results are illustrated in section V. C.

### ***C. Lessons Learned***

Public response to the RapidScreen program continues to be positive following several changes that were made in the startup period:

- The RapidScreen mailer was changed from a colorful design with a return address of “Gateway Clean Air Program” to a black and white design with the state seal and “Missouri Department of Natural Resources” in the return address.
- The low emitter indexing RapidScreening method was dropped in fall 2000 because a small percentage of inactive vehicles or vehicles operating out-of-state received notices. This led to a negative public perception in Missouri and the discontinuation of the use of the low emitter indexing method.

Suggestions for future RapidScreen program changes and additional evaluation are provided in section VIII.

## **II. Program Description and Reporting Requirements**

### **A. *RapidScreen and I/M Program Elements***

#### **1. *I/M Program Overview***

The Gateway Clean Air Program implemented in the St. Louis metropolitan area consists of a centralized enhanced biennial I/M program in Jefferson County, St. Charles County, St. Louis County and St. Louis City and a centralized basic annual I/M program in Franklin County. The program tests gasoline-powered passenger vehicles under 8,500 pounds Gross Vehicle Weight Rating (GVWR). Station-based testing began on April 5, 2000, for May 2000 vehicle registrations. In the Enhanced area, even model year January to April vehicle registrations were scheduled for testing later during the year. In the Basic area, January to March vehicle registrations were exempted from testing. EPA-recommended phase-in IM240 cutpoints are currently in use in the Enhanced area. EPA-recommended idle test cutpoints are currently in use in the Basic area.

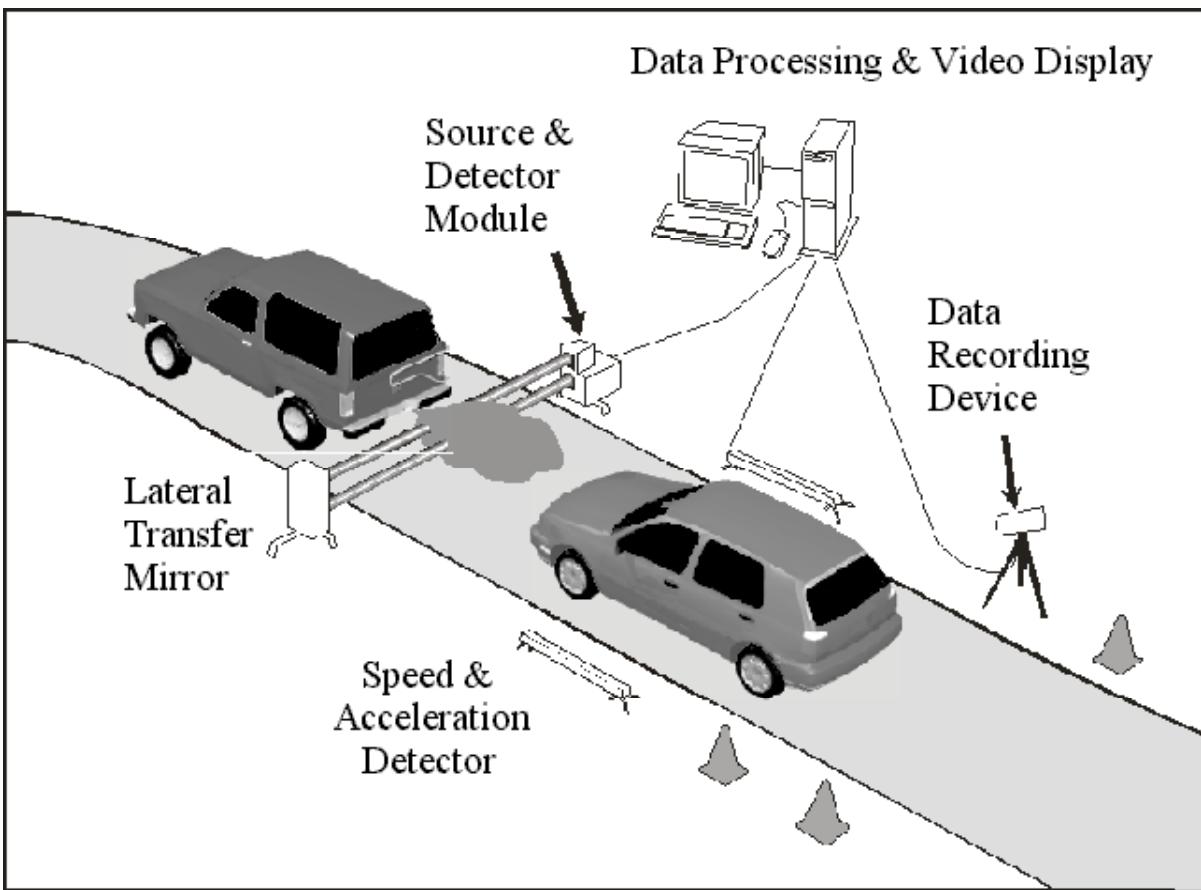
The Missouri Department of Natural Resources (MDNR) oversees the Gateway Clean Air Program. Testing operations have been contracted to Environmental Systems Products (ESP) Missouri through a competitive bid process.

The Gateway Clean Air Program is the first I/M program in the country to incorporate clean screening from the outset. Clean screening is a relatively new I/M program feature announced by the U.S. EPA in a guidance document issued in May 1998 that allows low emitting vehicles to be exempted from emission testing at inspection stations. On-road vehicles are typically measured using remote sensing devices (RSD). The typical setup is illustrated in Figure II-1. Those vehicles that are determined to have emissions below specific cutpoints are exempted from having to come to an emissions testing station to obtain their emissions test. The clean screening program implemented in Missouri is known as RapidScreen.

RapidScreen was designed into the Gateway Clean Air Program to maximize motorist convenience. Up to 40% of the vehicles do not have to be emission tested at a test station. Owners of these vehicles can forego the travel to a test station, which is estimated to be an average round-trip distance of 8 miles and an average round-trip travel time of 30 to 45 minutes, in addition to the time actually spent at the test station.

Vehicles registered in the Basic area can opt to obtain a biennial enhanced inspection instead of the annual basic test. Therefore, Franklin County vehicles are also able to participate in the RapidScreen program.

**Figure II-1 On-road Remote Sensing Setup**



## 2. *RapidScreen Methods*

The RapidScreen program design includes a statutory exemption for the first two model year vehicles accounting for 11-15% of vehicles, with a further 25%-29% of vehicles to be selected using clean screening methods to meet the 40% RapidScreen goal. During the first three and a half years of the program, 20% of vehicles are to be selected for RapidScreening using remote sensing.

Initially three clean screening methods were used to select vehicles for the RapidScreen program:

- RSD – the vehicle passed the two most recent RSD measurements made on different days.
- Hybrid – the vehicle passed the most recent remote sensing measurement and meets low emitter index cutpoints.
- LEI – the vehicle is a make/model that has performed well on past emissions tests and meets low emitter index cutpoints.

Additional details about the three clean screening methods are provided in Missouri I/M Program Clean Screening Plan<sup>2</sup>.

The original MDNR design called for the contractor to select 20% of the vehicles for RapidScreening using the RSD method described in the EPA Clean Screening Guidance document<sup>3</sup>. This method uses the two most recent RSD measurements for a vehicle collected on different days within the twelve months prior to the registration renewal date. The remaining 5-9% of vehicles were to be selected for RapidScreening using either the EPA-approved LEI method or an alternative method that has been approved by the EPA and the MDNR. In their response to the MDNR Request For Proposals, ESP proposed to use both the LEI method and the Hybrid method, which is an alternative method, for the remaining 5-9%. As mentioned in the RapidScreen Startup Report, the LEI method was discontinued for November 2000 and all subsequent registrations. Therefore, the remaining 5-9% consist of Hybrid identified vehicles.

ESP Missouri could not meet the 20% RSD goal during the startup period in 2000. To avoid wait time problems at the test stations during Gateway Clean Air Program startup, MDNR approved ESP Missouri's 2000 RapidScreen Plan which called for the broader use of the Hybrid and LEI methods. Although the EPA has not yet approved the Hybrid method, audit data (See section IV.) indicates that the Hybrid method is a viable clean screening method. Based upon this information, ESP Missouri proposed to continue using the Hybrid method in its 2001 RapidScreen Plan and has done so.

The RapidScreen cutpoints used for the RSD method are 200 ppm HC, 0.5% CO and 2,000 ppm NOx. Vehicle emissions must be below all three values on the most recent two measurements in order to be eligible for a RapidScreen notice.

With the Hybrid method, vehicles are only measured on-road once. The vehicle emissions must be below all three RSD cutpoints on the most recent measurement. In addition, low emitter index predicted reductions for the vehicle must be less than 0.15 g/mi HC, 2 g/mi CO and 0.05 g/mi NOx.

## ***B. Reporting Requirements***

### ***1. RapidScreen Reporting Requirement***

ESP Missouri, the vehicle emissions testing contractor for Missouri Department of Natural Resources, conducts the RapidScreening program as part of the Gateway Clean Air Program. The contract requires the ESP Missouri to report annually:

- The number of vehicles clean screened broken down by vehicle year, make and model and by county and ZIP code (See section III. B.);
- Information regarding the random sample of vehicles required to undergo emissions testing instead of being clean screened, including, but not limited to, a comparison of the remote sensing records, vehicle profile or model year compared with the actual emissions testing records of the random sample (See sections IV. B. and IV. C.).

### ***2. On-Road Reporting Requirement***

The Clean Air Act Amendments of 1990 require enhanced I/M programs to supplement the station-based testing with an on-road/remote sensing-based high emitter identification element.

The Code of Federal Regulation (CFR), chapter 40, section 51.371, defines on-road testing as “the measurement of HC, CO, NOx and/or CO<sub>2</sub> emissions on any road or roadside in the nonattainment area or the I/M program area. On-road testing is required in enhanced I/M areas and is an option for basic I/M areas.”

The general requirements are:

- (1) On-road testing is to be part of the emission testing system, but is to be a complement to testing otherwise required.
- (2) On-road testing is not required in every season or on every vehicle but shall evaluate the emission performance of 0.5% of the subject fleet, including any vehicles that may be subject to the follow-up inspection provisions of paragraph (4) below, each inspection cycle.
- (3) The on-road testing program shall provide information about the emission performance of in-use vehicles by measuring on-road emissions through the use of remote sensing devices or roadside pullovers including tailpipe emission testing. The program shall collect, analyze and report on-road sensing data.
- (4) Owners of vehicles that have previously been through the normal periodic inspection and passed final retest and found to be high emitters shall be notified that the vehicles are required to pass an out-of-cycle follow-up inspection; notification may be by mailing in the case of remote sensing on-road testing or through immediate notification if roadside pullovers are used.

Although the Gateway Clean Air Program is an enhanced I/M program, the St. Louis nonattainment area is only required to meet the basic I/M program performance standard. Therefore, while the Gateway Clean Air Program is collecting, analyzing and reporting on-road information (See section V.), owners of vehicles identified as high emitters have not, to date, been notified or required to bring their vehicle to an emission test station for an out-of-cycle test.

## **C. Sources of Data**

Data used in the analyses in this report are primarily drawn from the RSD unit measurements, the database of vehicle registrations and the I/M test database maintained on ESP Missouri's host computer system.

The following sections describe the key information in the host computer system.

### ***I. Remote Sensing Information***

RSD Measurements: RSD Unit, Date and Time, Vehicle Plate, HC, CO, CO<sub>2</sub>, NOx, speed and acceleration.

RSD Deployment: Unit number, Date, Shift, Site.

RSD Sites: Site Reference, Description of location, Slope of site in degrees.

## **2. Low Emitter Index**

The low emitter index is a table indexed by vehicle model year, make and model. It contains estimates of failure rates and repairable emissions for each make/model based on the results of two million IM240 tests in Colorado and Illinois. Although Illinois does not fail vehicles for NOx, NOx is measured, and there are advisory NOx standards in place. The LEI table was constructed using the assumption that Illinois vehicles were being failed and repaired for high NOx emissions.

The low emitter index is updated periodically, and station-based results from the testing of Missouri vehicles will be incorporated into this LEI table.

## **3. Vehicle Registration Data**

The vehicle registration table (VRR) contains information about each registered vehicle, including the unique vehicle identification number (VIN), the vehicle plate, make, model, model year, fuel type, owner name and address, zip code and county.

## **4. Gateway Clean Air Program Data**

Several tables contain emissions test information:

- VDR – contains the valid remote sensing measurements for vehicles with Missouri plates.
- VMR – contains the RapidScreen mailer record that contains reference to the RSD measurements or LEI status that makes a vehicle eligible for RapidScreen.
- VTR – the primary repository for all emission test results, including records for vehicles that have completed the RapidScreen process. The VTR has links to the VMR tables. The VTR contains a result that indicates whether and by what method vehicles were RapidScreened. A RapidScreen status indicator identifies vehicles selected as part of the RapidScreen audit sample and the RapidScreening method used.

Remote sensing records are first stored in the VDR table. Each month, registration records for vehicles that are due to renew and are subject to the inspection program are identified. The VDR table is scanned to identify matching remote sensing records that are then analyzed to identify the vehicles that have qualified for RapidScreen. The registration and remote sensing information for qualifying vehicles is written to the VMR file. After quality control and quality assurance checks have been completed (See section III. C.), the VMR file is used to generate RapidScreen notices that are mailed to vehicle owners. If a vehicle owner chooses to redeem the notice, the RapidScreen result is recorded in the VTR table.

## **5. RapidScreen Random Audit Sample**

Two percent of the vehicles that qualify for RapidScreen are randomly selected for the RapidScreen audit sample. These vehicles are not mailed RapidScreen notices and instead receive a station-based emissions inspection. As noted earlier, the results of the station inspections for RapidScreen audit sample vehicles are stored in the VTR table.

### **III. RapidScreen Operations**

#### **A. Monitoring Activities**

##### **1. Sites used**

Sixty-five sites were used during the calendar year 2001 (See Appendix A1). Fifty-nine sites have been used to collect 99% of the remote sensing measurements. Information retained about each site includes the type of site, e.g. on-ramp or surface street, cross streets, city/county, township, zip code, slope. The slope of a site combined with vehicle speed and acceleration is used to determine the specific power output of the vehicle engine at the time the remote sensing measure is made. At preferred sites, a majority of vehicles are operating with moderate engine power.

Vehicle specific power (VSP)<sup>4,5</sup> is a useful measure of the vehicle load in kilowatts per metric ton (kW/t). The engine power output of a vehicle passing a remote sensing unit depends upon the grade of the site, the vehicle speed and the vehicle acceleration. The grade of the site is measured during the site selection process. Speed and acceleration are measured for each vehicle. Ideally, vehicles passing remote sensing units will have a VSP in the 3-22 kW/t range. Above and below these power levels, tailpipe concentrations can be significantly higher than normal. At low power levels, engines virtually shut down and yield only a small volume of tailpipe gas. This can result in significantly higher pollutant concentrations than when the engine is running normally even though the mass of pollutants is quite small. At high power levels, vehicles are likely to be operating in a commanded enriched fuel/air ratio. The Federal Test Procedure (FTP) used to certify new vehicles only simulates VSP levels of up to 22 kW/t. Above this level, vehicles are often designed to use enriched mixtures to obtain more power. In other words, at high power levels (enriched mixtures), tailpipe concentrations can be significantly higher than when the engine is running normally because the mass of pollutants is quite high.

For clean screening, the VSP range is important to the extent it may prevent a vehicle from being RapidScreened. Measurements made when the vehicle is outside the controlled range may prevent the vehicle from meeting the clean screening cutpoints even though it is operating correctly. Since NOx emissions vary with engine load, it is possible that vehicles that would fail a station test for NOx could emit sufficiently low NOx to pass the RapidScreen NOx standard when operating at low VSP levels. However, the RSD results do not indicate this to be a problem at current cutpoints.

For fleet evaluation and high emitter identification, it is useful to use remote sensing measurements that are within the range of engine operating conditions over which emissions are intended to be controlled.

##### **2. RSD Units**

The remote sensing units deployed in Missouri are RSD-3000 mobile units also called AccuScan<sup>TM</sup>. The design is based on a technical platform developed at the University of Denver by Dr. Donald Stedman. ESP engineers have commercialized this equipment and continue its development.

The mobile unit includes the equipment required to provide measurement of emissions as well as speed and acceleration readings and license plate software. Five main components comprise the RSD-3000 system:

- Infrared and ultraviolet source and detector modules;
- Video system;
- Control console with computer system;
- Laser-based speed and acceleration measurement system;
- License plate tag editing system.

The primary combustion gases HC, CO and CO<sub>2</sub> are measured simultaneously along the same optic path to ensure the proper application of the combustion gas equations. HC, CO and CO<sub>2</sub> are measured using the infrared beam, and NO<sub>x</sub> is measured using the ultraviolet beam. To avoid interference between vehicles, the RSD-3000 unit is capable of completing the vehicle emission measurement within 0.6 second and all measurements for a vehicle including emissions, speed, acceleration and license plate image within one second.

The RSD unit takes multiple rapid readings for each vehicle to characterize the exhaust plume profile and evaluate whether a valid measurement of a vehicle's exhaust has been achieved. The criteria include how much vehicle exhaust plume is available for the duration of a 0.6 second sampling period, evaluation of whether plume measurements are consistent with normal plume dissipation, and correction for changes in background concentrations of emissions.

RSD units are certified to meet accurate measurement of calibration gas trailed by a specially-modified vehicle under controlled conditions using quad-blend (CO<sub>2</sub>, HC, CO, NO<sub>x</sub>) calibration gases. The RSD tolerance for each pollutant is:

- Hydrocarbon (HC): ±150 parts per million (ppm) or ±15% of the expected HC concentration {whichever is greater} throughout the range of HC concentrations. Hydrocarbon measurements are expressed in their hexane equivalent measurement.
- Carbon monoxide (CO): 0.25% CO or ±10% of the CO value {whichever is greater} for all expected concentrations less than or equal to 3.0%, and ±15% for all CO expected concentrations above 3.0% CO.
- Oxides of nitrogen (NO<sub>x</sub>): ±250 parts per million (ppm) or ±15% of the expected NO<sub>x</sub> concentration {whichever is greater} throughout the range of NO<sub>x</sub> concentrations.

The mobile unit is equipped with a speed and acceleration measurement system that uses extremely accurate low energy lasers to calculate the speed of the vehicle to within +/- 0.5 mile per hour and acceleration to within +/- 0.3 miles per hour per second at the moment exhaust is measured.

The system captures emissions readings and rear pictures of vehicles that pass through the RSD beam. The video and emissions readings taken are stored directly on a removable media disk and can be used for future reference.

### 3. Number of Measurements

Table III-1 provides a monthly summary of the data collection statistics by record, dataset and shift. A calendar year summary is provided at the foot of the table. A dataset is a unique set of data collected by one RSD unit at one site on one day. The data may have been collected over either one or two shifts. The shift is a collection period of one remote sensing unit operated by one operator for a given shift period.

Water droplets in the air interfere with remote sensing operation. Remote sensing units are not operated in the rain and snow or when there is excessive spray from tires. Freezing weather can also cause water vapor in the tailpipe exhaust stream to rapidly condense into mist and prevent remote sensing units from operating. The relatively low number of records and percent of valid records collected in December 2000 and February 2001 were due to the poor weather conditions described above that reduced the number of days of operation.

A total of 4.9 million remote sensing records were collected during calendar 2001 and 3.6 million in the nine months from April through December.

**Table III-1 Summary of 2001 Data Collection**

Year	Month	Avg. Units	Active Days	Avg. Records Per Dataset		Shifts	Avg. Records Per Shift	Total Records
				Datasets	Dataset			
2001	1	7	22	120	3,796	206	2,211	455,468
2001	2	5	20	91	3,613	161	2,042	328,775
2001	3	5	23	109	4,515	196	2,511	492,131
2001	4	5	24	115	3,910	199	2,260	449,691
2001	5	5	26	113	3,668	188	2,205	414,500
2001	6	5	23	108	4,400	185	2,569	475,231
2001	7	5	23	84	3,706	149	2,089	311,303
2001	8	5	26	123	4,115	225	2,249	506,105
2001	9	5	21	89	4,119	161	2,277	366,611
2001	10	5	21	94	4,281	165	2,439	402,398
2001	11	5	20	79	4,384	137	2,528	346,342
2001	12	5	20	93	3,867	154	2,335	359,642
Total 2001		269	1,218	4,030	2,126	2,309	4,908,197	
Total Apr-Dec		204	898	4,044	1,563	2,324	3,631,823	

The cumulative number of in-state remote sensing records collected within a twelve-month period is shown by month in Figure III-1. The corresponding number of records with valid HC, CO, CO<sub>2</sub>, NO<sub>x</sub>, speed and acceleration measurements that are successfully matched to Missouri registrations is indicated by the shorter bars. While 4.9 million on-road measurements were made in the January-December 2001 period, only 47% (2.3 million records) had complete data successfully matched to Missouri registrations. Reasons for this difference include out-of-state plates, incomplete measurements, obscured plates and an approximately 80% registration plate match rate. License plates are often transferred from one vehicle to another when a vehicle is

transferred to a new owner. When vehicle registration records indicate such a change has taken place, remote sensing readings made prior to the plate change are flagged as being no longer valid for RapidScreening. The 47% valid matched rate for all of 2001 shows an improvement over the 44% rate achieved in 2000. From May through December 2001 the rate further improved to an average of 50%.

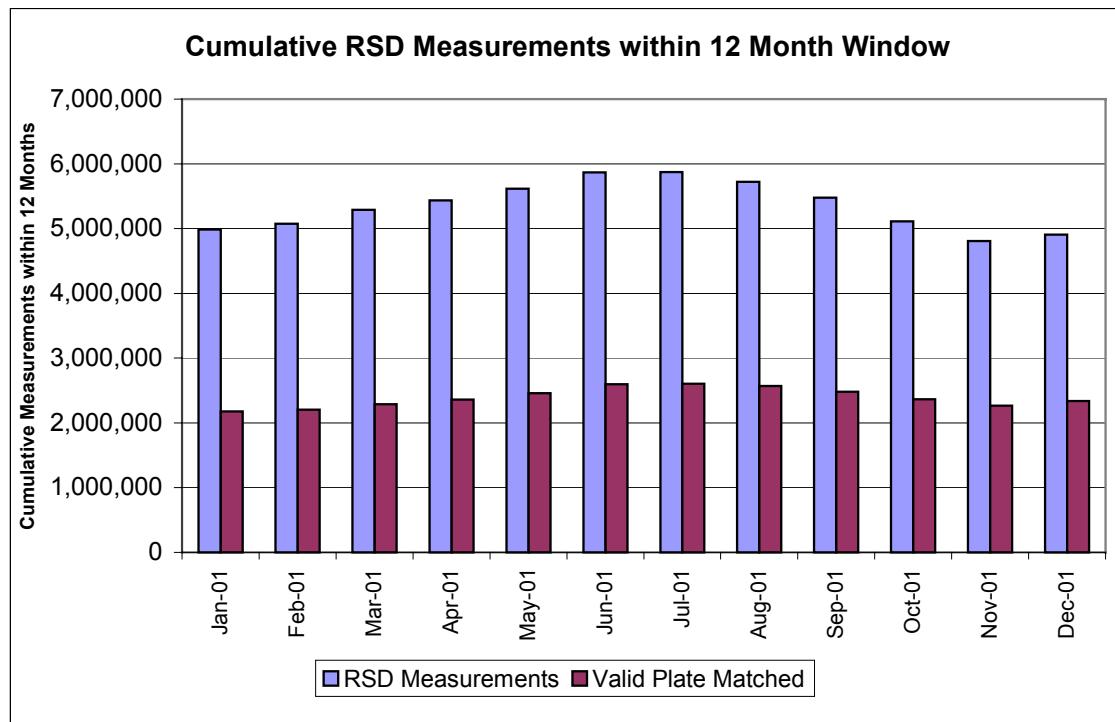
According to the EPA Clean Screening Guidance document, remote sensing measurements must be gathered within twelve months of a vehicle's registration renewal date. Records collected more than twelve months previously are not used to make a clean screen determination. Therefore, for example, the last pair of bars in Figure III-1 shows the measurements made from Jan 1, 2001 through December 31, 2001.

Cumulative valid records collected within twelve months peaked at 2.6 million in July and declined to 2.3 million in December. Two reasons contribute to the decline:

- An extra effort was made to accelerate the build-up of the database of measurements in the late summer of 2000 that resulted in higher than average collection rates. The records collected during this period drop out of the twelve-month collection window during the late summer of 2001.
- Inclement weather and shorter days in the fall and winter months reduces the number of available operating hours for the remote-sensing units.

The average for the year was 2.4 million valid matched records.

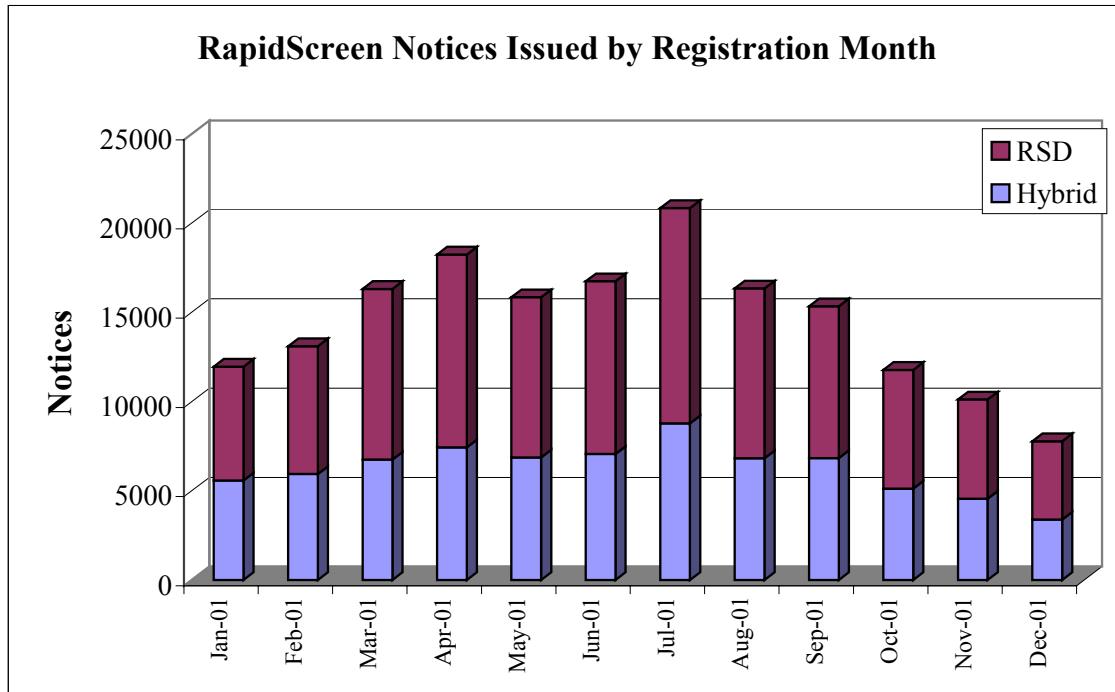
**Figure III-1 Cumulative Remote Sensing Measurements**



#### 4. Notices Issued and Redeemed

Figure III-2 shows the number of RapidScreen notices issued for vehicles by registration renewal month. Notices are prepared approximately a month and a half prior to the month in which the vehicle is due to renew. Notices for vehicles due to re-register in January 2001 were processed in November 2000.

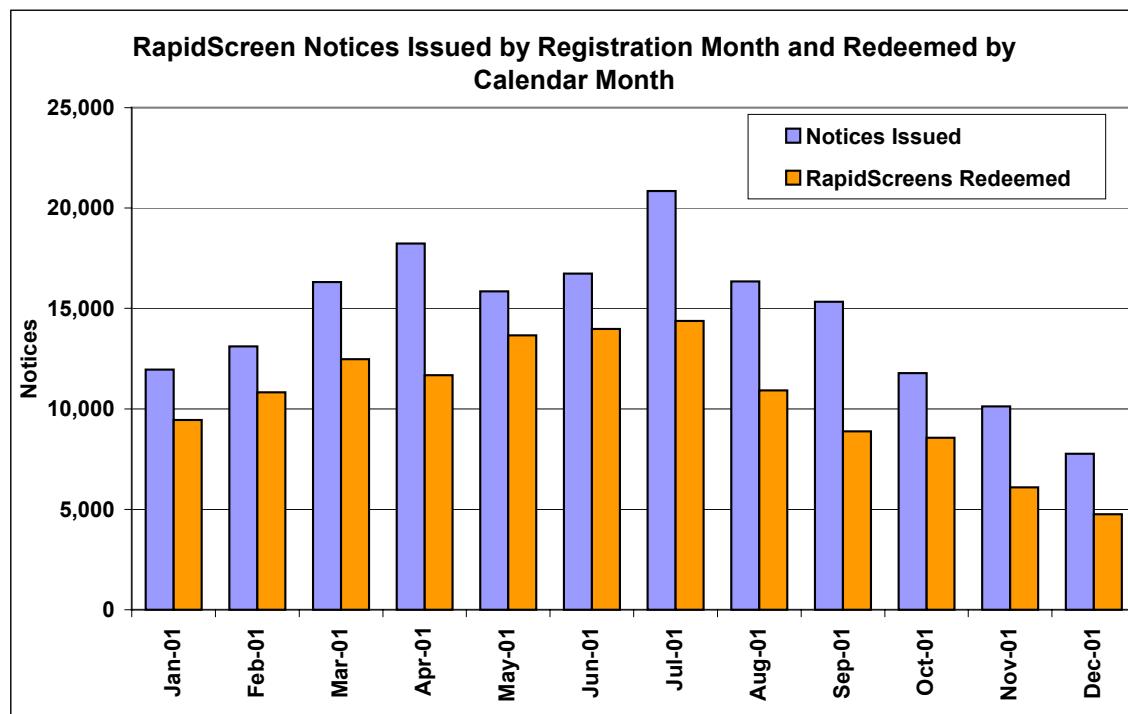
**Figure III-2 RapidScreen Notices Issued**



Participation in the RapidScreen program is voluntary. A vehicle owner must choose to respond to a RapidScreen notice in order for a vehicle to complete the RapidScreen process. If a vehicle owner chooses not to respond to a RapidScreen notice, their vehicle must be emission tested at a station. Figure III-3 compares the monthly number of RapidScreen notices issued and the monthly number of vehicles whose owner redeemed a RapidScreen notice.

The same numbers of notices issued and redeemed for the year are shown in Table III-2. The percentages of notices redeemed are 76% for the RSD method and 67% for the Hybrid method. Because Hybrid vehicles are seen less frequently by on-road RSD units and may have been seen longer ago, a greater proportion of these vehicles may have moved or changed owner since they were last observed. This may explain the slightly lower redemption rate.

**Figure III-3 RapidScreen Notices Redeemed**



**Table III-2 RapidScreen Notice Redemption Rate**

	RSD	Hybrid	LEI	Total
Notices issued for 2001 registrations	99,274	75,155	-	174,429
Notices redeemed in 2001	75,405	50,235	23	125,663
Percentage of RSD redemptions	76%	67%	n/a	72%

## B. Distribution of Vehicles Clean Screened

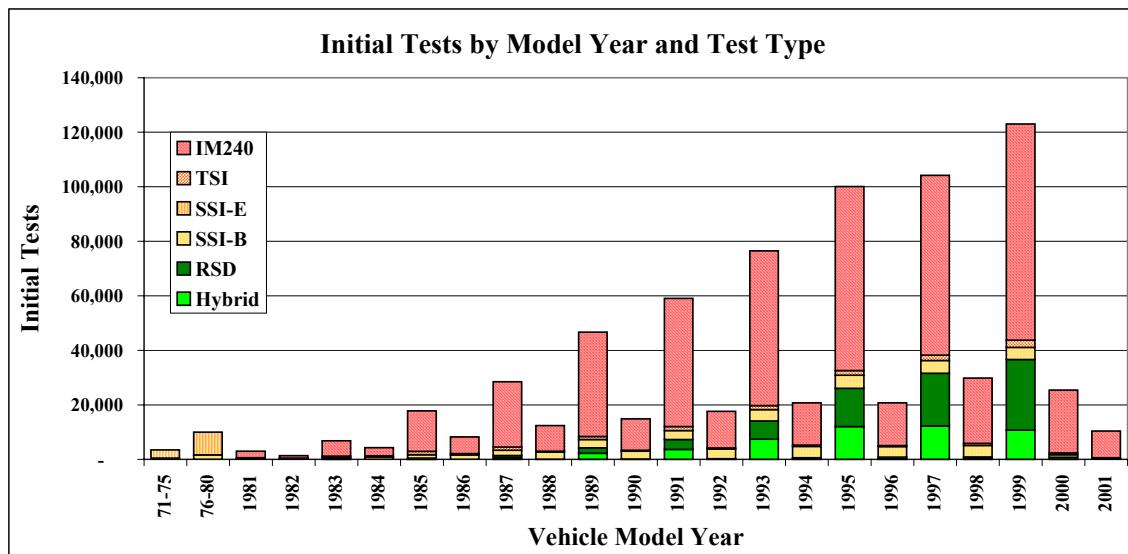
### I. RapidScreen Tests by Model Year

The distribution of initial tests by model year and type of emissions test or RapidScreen method is shown in Figure III-4. In the Enhanced I/M area, even model year vehicles are scheduled for testing in even years and odd model years in odd years. In the Basic I/M area, all vehicles are tested annually, regardless of model year but RapidScreen notices are only issued to even model year vehicles in even years and to odd model year vehicles in odd years. Therefore, the testing period being reported here, January 2001 through December 2001, contains a greater proportion of odd model year vehicle tests.

Figure III-4 describes the frequency of each of the emissions tests conducted by the Gateway Clean Air Program. Three of the seven test types, RSD, Hybrid and LEI, are RapidScreening methods. All vehicles in both enhanced and basic areas are eligible to be RapidScreened. Four of the seven test types, IM240, TSI, SSI-E, SSI-B are station-based test methods. IM240 tests

are only performed on 1981 and newer model year vehicles in the Enhanced area. Two-speed idle tests (TSI) are only performed on 1981 and newer vehicles in the Enhanced area that cannot be IM240-tested. Single-speed idle tests are performed in the Enhanced area (SSI-E) on all 1971-1980 model year vehicles and on all vehicles, regardless of model year, in the Basic area (SSI-B). The LEI method was discontinued in late 2000. Although not shown in Figures III-4 and III-5 because of their small number, twenty-three vehicles obtained an exemption via the LEI method in 2001.

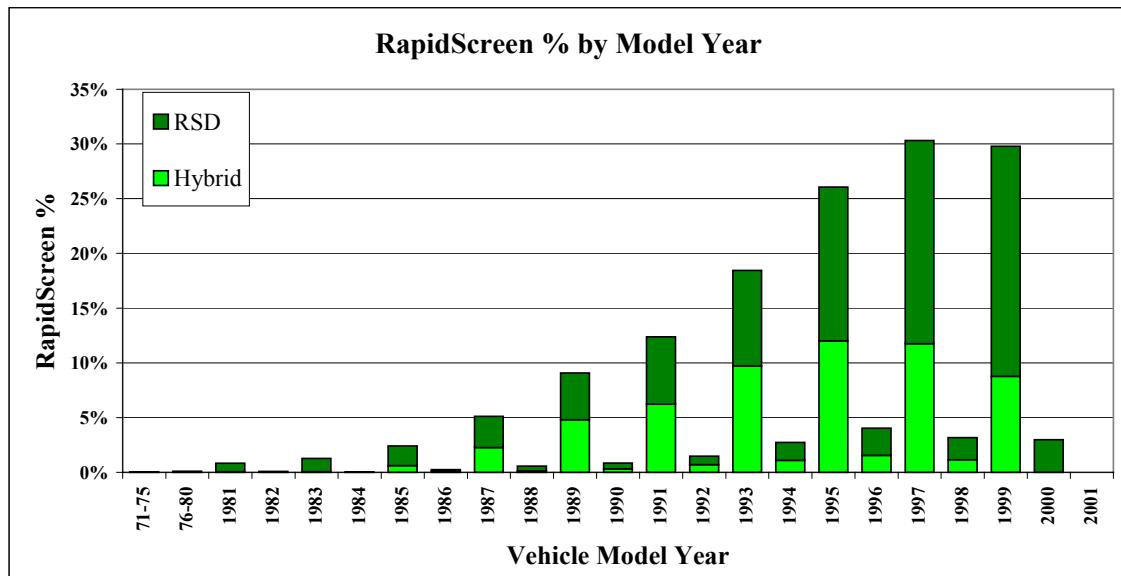
**Figure III-4 Initial Tests by Model Year and Type of Test**



The percentages of each model year that were RapidScreened using each method are shown in Figure III-5. A table showing the distribution of RapidScreened vehicles by vehicle model year, make, and model is provided in Appendix A3.

The proportion of vehicles passing a RapidScreen test is greatest among the newest vehicle models. The newest vehicles have a higher probability of passing the RapidScreen vans and the RapidScreen cutpoints because they tend to be driven more miles each year (See section VII. B.) and are designed to run more cleanly than older vehicles. These factors increase the chance of newer vehicles qualifying for RapidScreen.

**Figure III-5 RapidScreen Redemptions by Model Year and Method**



## 2. *RapidScreen Tests Per County and ZIP Code*

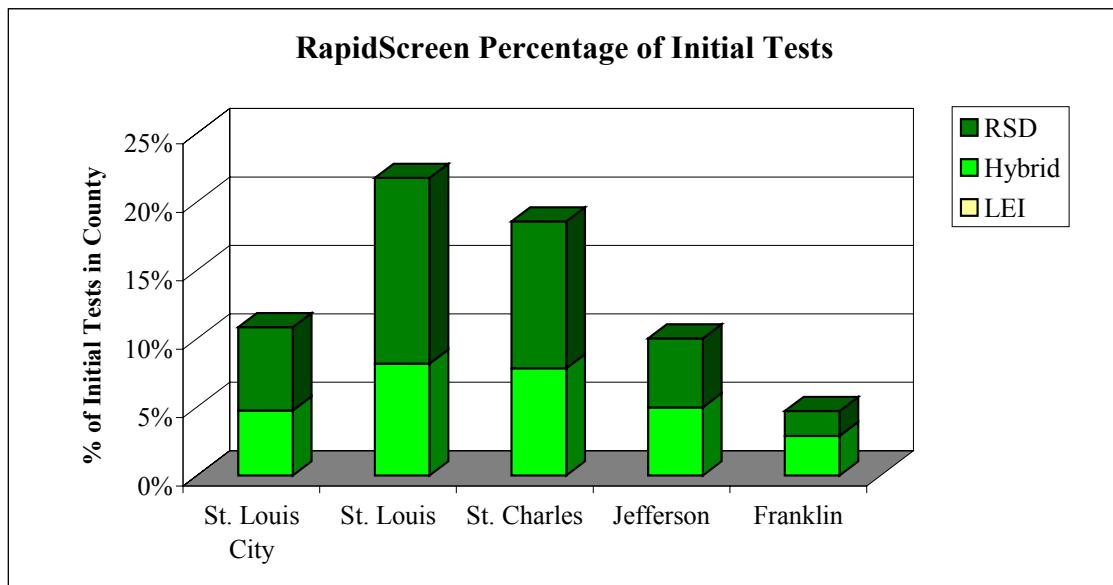
The percentage of vehicles in each county being RapidScreened with the RSD method depends upon a number of factors:

- The age distribution of vehicles in the county
- The population and traffic density in the county
- The availability of remote sensing sites in the county
- The frequency of RSD unit deployment in the county
- The motorist response rate to RapidScreen notices
- The frequency of the emission test requirement (annual or biennial) in the county

Figure III-6 shows the percentage of initial tests completed using RapidScreen by county. The percentage of RapidScreened vehicles shown for Franklin County has been multiplied by a factor of two to account for the biennial RapidScreen certificates vs. the annual basic test. A table showing the percentage of tests that were RapidScreen tests by ZIP code is provided in Appendix A2.

Data collection efforts have been more intense in St. Louis County than the other counties. This has been mostly a function of the availability of productive sites. Towards the end of the year, greater collection efforts have been focused on St. Louis City, Jefferson and Franklin counties. This effort to diversify collection efforts among a wider geographic spread of sites needs to be continued.

**Figure III-6 Percentage of Tests that are RapidScreen in Each County**



### **C. Quality Control and Quality Assurance**

ESP Missouri subcontracted Remote Sensing Air (RS=A) to provide RSD data management and quality assurance functions for the RapidScreen program. Therefore, RS=A has prepared the majority of this section of the RapidScreen Startup Report.

RapidScreen data management activities include:

- Ensuring that all datasets collected are tracked from collection through inclusion in the full database of records available for matching.
- Ensuring that all valid records have been tag edited.
- Ensuring that all datasets are properly transferred to the full database for matching.
- Archiving all raw data to digital video discs for ESP Missouri and MDNR.

The quality control (QC) and quality assurance (QA) procedures include:

- Checking for the presence of correct RSD unit calibration records.
- Training of tag editors.
- Quality control on tag editors.
- Quality assurance of the tag edit process through a 10% audit sample.
- Quality assurance of the correct matching of vehicle images and RSD measurements to registration records through image verification of a 10% sample of vehicles that are being issued RapidScreen notices.

A complete list of RapidScreen data management, QC and QA activities is provided in Table III-3.

**Table III-3 List of QC and QA Tasks and Responsibilities**

Task	Responsibilities		
	Frequency	Company	Personnel
Upload data from Vans (must be done daily)	Daily	ESP	Lead Operator
Verify all files present (must be done daily)	Daily	ESP	Lead Operator
Check data received against expected schedule	Daily	ESP	Lead Operator
Check images for each folder for clearness and position	Daily	ESP	Lead Operator
Check cal gas values in log file against known values	Daily	ESP	Tag Edit Manager
Enter RSD Daily Log Sheet Information into SDM check database	Daily	ESP	RSD Technician
Check pot settings against certification values	Daily	ESP	RSD Technician
ESP must also maintain & repair equipment & keep up database on these actions	Daily	ESP	Bench Technician
Create data tracking forms (DTF) and QA sheets	Daily	ESP	Tag Edit Manager
Enter DTF information into Data Tracking database	Daily	ESP	Tag Edit Manager
Create site statistics	Daily	ESP	Tag Edit Manager
Compare hit rate of new data to avg. for site	Daily	ESP	Tag Edit Manager
Assign data to tag editors & log in database	Daily	ESP	Tag Edit Manager
Track progress of tag editors	Daily	ESP	Tag Edit Manager
Log in tag edited files	Daily	ESP	Tag Edit Manager
Move completed folders to NEED QA	Daily	ESP	Tag Edit Manager
Give tag edited DTF forms to RSA Data Manager	Daily	ESP	Tag Edit Manager
Train tag editors	As needed	ESP	Tag Edit Manager
Run QC check on tag edited data & provide feedback to TEM	Daily	RSA	Database Manager
QA data	Daily	RSA	QA Auditor
Enter QA results into Data Tracking & QA/QC DB	Daily	RSA	Database Manager/QA Auditor
Create revised text file and send it to To Database folder	Daily	RSA	Database Manager
Move folder from Needs QA to Copy to DVDs	Daily	RSA	Database Manager
Copy corresponding images to RSD Images	Daily	RSA	Database Manager
Copy files to DVDs & create logs for ESP and MDNR	Daily	RSA	Database Manager
Perform RSD Image QA for mailers	Monthly	RSA	Database Manager/QA Auditor
Process audit data and create summaries for SDM performance	Monthly	RSA	Database Manager
Create reports on site statistics	Monthly	RSA	Database Manager
Evaluate the 2% of vehicles withheld from mailers and sent to IM	Monthly	RSA	Database Manager
Perform site audits for each operator once per month & report	Monthly	RSA	Database Manager
Assist with new site selection	As needed	RSA	Database Manager
Prepare reports on QA, site statistics, and data flow	Monthly	RSA	Database Manager
Evaluate cut point choices for Clean Screen & Gross Emitter using data collected	Annually	RSA	Database Manager
Ensure that all tasks are being done efficiently	Daily	RSA	Project Manager
Assist in providing more efficient procedures	As needed	RSA	Project Manager
Assist in report design	As needed	RSA	Project Manager
Assist in modifications of ATP requirements	As needed	RSA	Project Manager

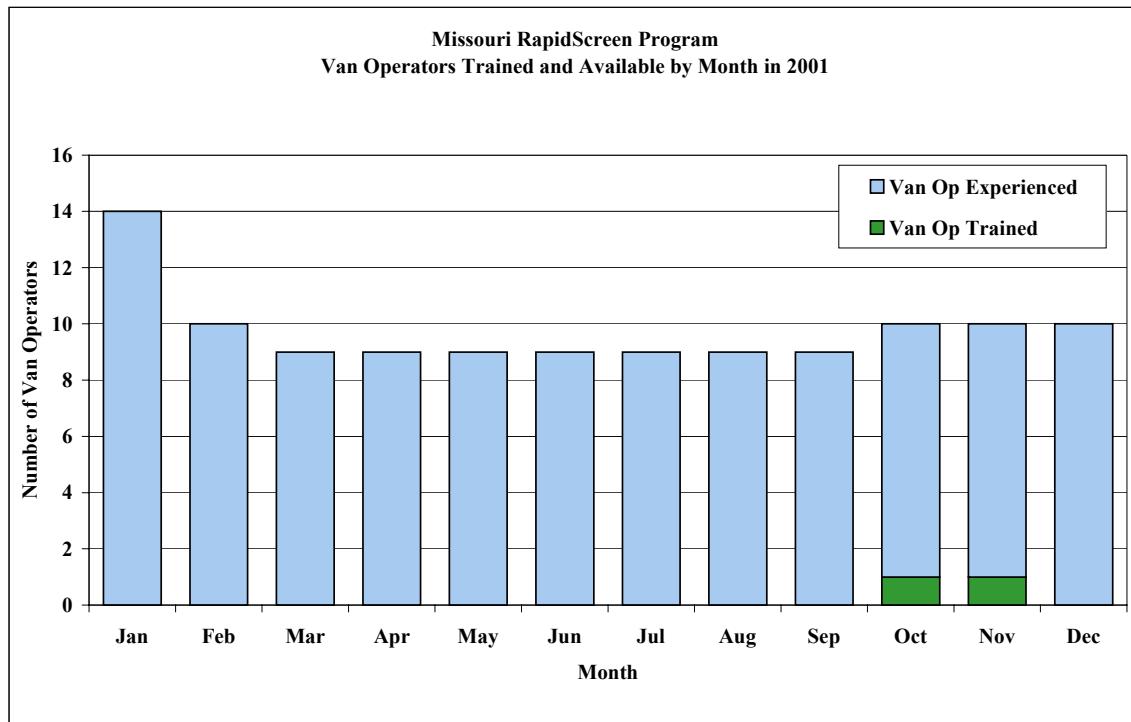
### **1. Training of Tag Editors**

Each tag editor is provided a set of tag editing rules and photographs of various types of license plates. RS=A gives a short training session covering the rules and best ways to perform the tag editing. Then each tag editor is provided 500 records to tag edit. These 500 records are checked for errors, and the dataset is reviewed with the tag editor. The trainer explains the types of errors found and provides guidance to the tag editor for avoiding those errors. This process is repeated until the tag editor has fewer than 15 errors (3%). If at any point, a tag editor has an increase in error rate above 20 errors (4%), the dataset is 100% checked, and the tag editor is required to review the types of errors found.

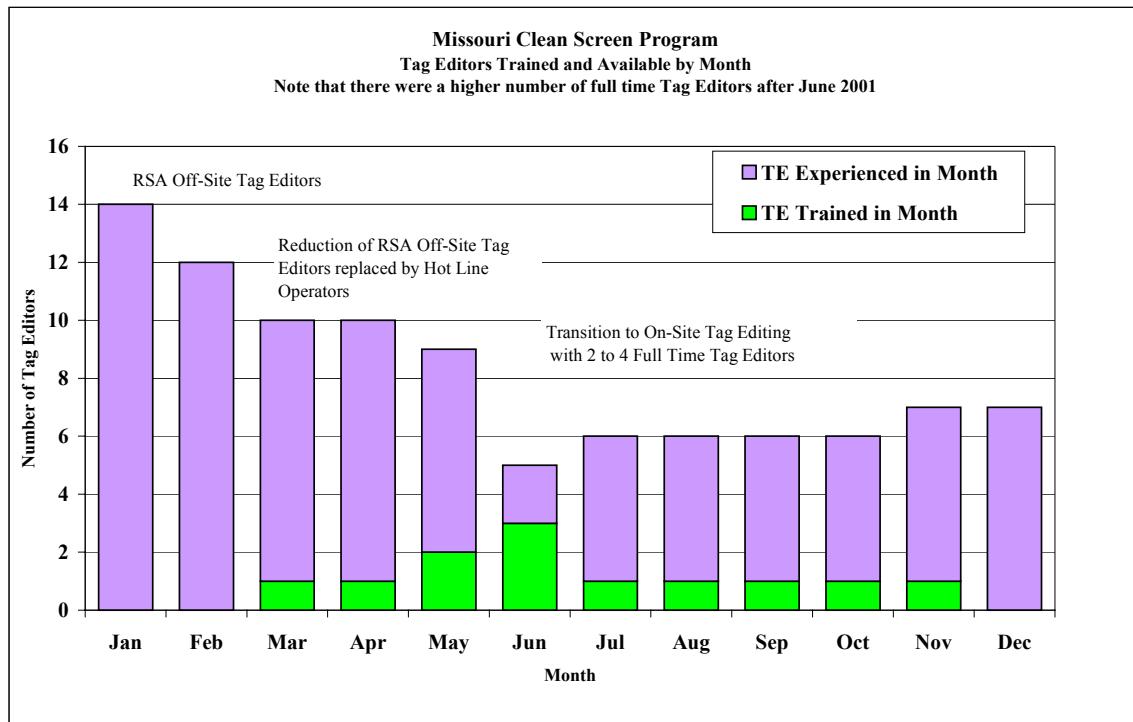
The numbers of trained and experienced van operators and tag editors are presented in Figures III-7 and III-8. In 2001, there was an overall reduction in the number of van operators and tag

editors. From March through July, off-site RSA tag editors were phased out in favor of full-time ESP tag editors.

**Figure III-7 Van Operators Trained and Experienced by Month**



**Figure III-8 Tag Editors Trained and Experienced by Month**



## 2. Quality Control on Tag Editors

Quality control of tag editors provides the trainers with an understanding of the performance of each tag editor and the opportunity to give their tag editors additional training as necessary. Each tag editor undergoes 100% QC on all records tag edited until their error rate falls below 3%. After this time, the routine QA on each dataset (See section III. C. 4.) is used to verify the error rates for each tag editor. If the error rate goes above 4%, then the dataset goes through a 100% QC check, the tag editor reviews the errors made, and the trainer gives the tag editor guidance on how to avoid the problems exhibited. Most tag editors stay below the 3% error rate for their period of tag editing (generally below 1%). During QC checking, all errors found are corrected in the dataset to ensure as accurate a database as possible.

An RSD dataset from one RSD unit is typically divided into several parts that are individually assigned to a tag editor. Each part of the RSD dataset is called a tag edit dataset. The number of tag edit datasets and records requiring QC are provided in Table III-4 by month. In some months, no tag edit datasets required 100% QC.

New tag editors brought on in June initially had higher error rates (See Table II-4) but the overall percentage of datasets requiring QC for the year (1.0%) was lower than in the startup period (5.3%).

**Table III-4 Monthly Summary of QC on Tag Editors**

Collect Month	Actual Records Tag Edited	Average Records per Tag Edit Dataset	Number of Tag Edit Datasets	Number of Records Checked	Number of Datasets Needing QC	Percent of Datasets Needing QC
2001 01	262,758	1,081	243	0	0	0.0%
2001 02	186,201	1,241	150	0	0	0.0%
2001 03	325,204	1,694	192	2,000	1	0.5%
2001 04	299,830	1,704	176	0	0	0.0%
2001 05	303,348	1,695	179	2,911	1	0.6%
2001 06	352,555	3,013	117	9,264	6	5.1%
2001 07	221,174	2,633	84	205	1	1.2%
2001 08	386,788	3,145	123	4,582	4	3.3%
2001 09	279,075	3,136	89	802	1	1.1%
2001 10	280,022	2,979	94	0	0	0.0%
2001 11	244,854	3,139	78	0	0	0.0%
2001 12	245,335	2,638	93	4,291	2	2.2%
<b>TOTAL</b>	<b>3,387,144</b>	<b>2,093</b>	<b>1,618</b>	<b>24,055</b>	<b>16</b>	<b>1.0%</b>
<i>Average</i>	<i>282,262</i>	<i>2,093</i>	<i>135</i>	<i>2,005</i>	<i>1.3</i>	<i>1.0%</i>

### 3. *Quality Control on VDR Datasets*

When a tag editor completes a particular tag edit dataset, all of the records are checked for errors using specific queries. In this way, common errors, such as inclusion of improper symbols or spaces, inappropriate number of characters, or inappropriate combinations of data field contents, are found and corrected before the final QA is performed (See section III. C. 4). This QC process ensures that the VDR table contains accurate information. RS=A tracks the numbers and types of errors so that each tag editor knows the types of errors being made and how best to avoid such errors.

Table III-5 shows the total and average number of these common errors found each month through this QC process. This query review of 100% of the data for the month takes little actual time and is a worthwhile step because, although the average percentage of errors found is small (0.08%), the average number of errors found (229) is greater than the average number of errors found during the QA process (171) (See Table III-6). The error rate for 2001 of 0.08% is half the rate reported for the startup period.

**Table III-5 Monthly Summary of QC on Tag Edited Datasets**

<b>Month</b>	<b>Actual Records Tag Edited</b>	<b>Errors Found</b>	<b>% Errors by Month</b>
2001 01	262,758	366	0.18%
2001 02	186,201	115	0.07%
2001 03	325,204	218	0.06%
2001 04	299,830	192	0.09%
2001 05	303,348	131	0.08%
2001 06	352,555	242	0.09%
2001 07	221,174	331	0.15%
2001 08	386,788	371	0.10%
2001 09	279,075	186	0.07%
2001 10	280,022	235	0.11%
2001 11	244,854	173	0.09%
2001 12	245,335	185	0.09%
<b>Total</b>	<b>3,387,144</b>	<b>2,745</b>	<b>0.08%</b>
<b>Average</b>	<b>282,262</b>	<b>229</b>	<b>0.08%</b>

#### **4. Quality Assurance on VDR Datasets**

Quality assurance of the datasets provides information on the accuracy of the VDR table used for RapidScreen image and registration matching. Each tag-edited dataset has 10% of the records checked. Each dataset is divided into four equal parts. A random number is chosen from the first quarter of data and a range of 10% of that quarter is visually checked. The process is repeated for each subsequent quarter using the same random number added to the first record of each bin. In July 2000, the tag edit program was modified to only allow the tag editing of records with valid HC, CO, NOx, and CO2 measurements. At that point, the QA checks were also performed only on the tag edited records.

If the number of errors exceeds 4% for any tag editor, then the dataset undergoes 100% QC check on the records for the tag editor (See section III. C. 3.). If there is a specific type of error that can be checked, then only those records with that type of error are checked. After a 100% QC check, the dataset again undergoes a 10% QA check using a different set of random records to provide the actual quality of the final data in the VDR table.

Table III-6 provides a summary of the QA results by month. The average QA error rate for the VDR table is 0.73% (>99% accuracy). The actual final quality of the tag-edited datasets in the VDR table will be higher than that reported since all errors found during the QA process are corrected.

Tag edit errors create incorrect license plate numbers that may not match any vehicle registered in the Gateway Clean Air Program area. When remote sensing measurement records in the VDR table containing these errors are compared to registrations to obtain vehicle information, these records with plates that do not match any vehicle subject to the program are discarded.

Therefore, not all of the 0.73% of tag editing errors are carried forward to the RapidScreen notice generation process.

**Table III-6 Monthly Summary of QA on Tag Edited Datasets**

Month	Actual Records Tag Edited	Number of Records QA Checked	Percent of Records		Percent Errors by Month
			QA Checked	Errors Found	
Jan	262,758	27,877	11%	167	0.60%
Feb	186,201	15,758	8%	56	0.36%
Mar	325,204	31,646	10%	102	0.32%
Apr	299,830	34,105	11%	122	0.36%
May	303,348	38,801	13%	183	0.47%
Jun	352,555	40,119	11%	434	1.08%
Jul	221,174	15,012	7%	167	1.11%
Aug	386,788	23,260	6%	375	1.61%
Sep	279,075	15,198	5%	171	1.13%
Oct	280,022	12,876	5%	96	0.75%
Nov	244,854	11,186	5%	71	0.63%
Dec	245,335	14,920	6%	107	0.72%
<b>Total</b>	<b>3,387,144</b>	<b>280,758</b>	<b>8%</b>	<b>2,051</b>	<b>0.73%</b>
<i>Average</i>	<i>282,262</i>	<i>23,397</i>	<i>8%</i>	<i>171</i>	<i>0.73%</i>

### 5. Quality Assurance on VMR Images

Each month, vehicle mailing records (VMRs) are created for vehicles that qualify for RapidScreen and are due to renew their registration. This is the first step in creating and mailing monthly RapidScreen notices. RSD image quality assurance verifies that the license plate images of the two qualifying remote sensing records match each other and match the vehicle identified by the MDOR registration information. This QA process is performed for each monthly set of data in the VMR table that is used to generate the RapidScreen notices. A program written by ESP is used to QA a random 10% of the RapidScreen notices. There are five choices when checking the images:

- P (Pass) – both RSD images are the same and match the registration data for that record.
- R (Fail) – both RSD images match each other but do not match the registration database. This is generally due to a time lag in ownership and the MDOR database, but the vehicle cannot be passed since the vehicle does not match the registration.
- DO (Fail) – both RSD images do not match each other. This may be due to the same plate being used for different vehicles, or a change in ownership of the vehicle/plate between the time of the collection of the image and the data in the MDOR database.

- DTE (Fail) – both RSD images do not match each other. This is due to a tag edit error.

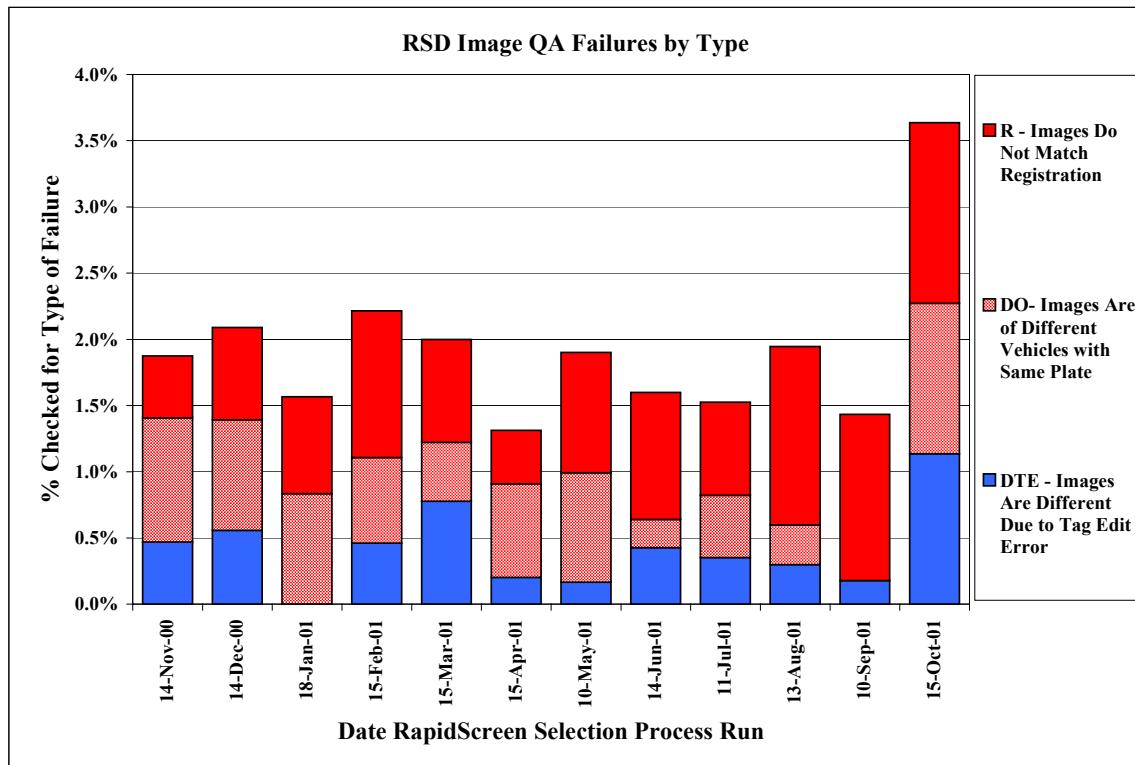
Table III-7 provides a summary of the VMR image matching failure rate for each registration month and overall. The average failure rate of VMR image matching is 1.9%. The majority of these failures (1.5%) appear to be due to time lags in the MDOR database (R and DO image matching failure types). The average QA rate of failures in the VMR table due to tag edit errors is less than 0.4%, which is lower than the average QA error rate of the tag edited datasets in the VDR table (0.73%) (See Table III-6).

Figure III-9 details the types of image matching failures as a percent of the total number of VMR images checked.

**Table III-7 Monthly Summary of QA on VMR Images**

Date Process Run	Registration Due	RS Records Matched	RS Records QA'd	RS Image Fail for All Reasons		%RS Images Fail	RS Image Fail Due to TE Error	Image Fail Due to TE Error	% RS Image Fail Due to TE Error
				Fail for All Reasons	%RS Images Fail				
14-Nov-00	01-Jan-01	6,527	640	12	1.9%	3	0.5%		
14-Dec-00	01-Feb-01	7,327	718	15	2.1%	4	0.6%		
18-Jan-01	01-Mar-01	9,775	958	15	1.6%	0	0.0%		
15-Feb-01	01-Apr-01	11,047	1,083	24	2.2%	5	0.5%		
15-Mar-01	01-May-01	9,182	900	18	2.0%	7	0.8%		
15-Apr-01	01-Jun-01	9,900	990	15	1.5%	2	0.2%		
10-May-01	01-Jul-01	12,344	1,210	23	1.9%	2	0.2%		
14-Jun-01	01-Aug-01	9,723	938	15	1.6%	4	0.4%		
11-Jul-01	01-Sep-01	8,690	852	13	1.5%	3	0.4%		
13-Aug-01	01-Oct-01	6,813	668	19	2.8%	2	0.3%		
10-Sep-01	01-Nov-01	5,691	558	8	1.4%	1	0.2%		
15-Oct-01	01-Dec-01	4,488	440	16	3.6%	5	1.1%		
<b>TOTAL</b>		<b>101,507</b>	<b>9,955</b>	<b>193</b>	<b>1.9%</b>	<b>38</b>	<b>0.38%</b>		
<i>Average per month</i>		<i>8,459</i>	<i>830</i>	<i>16</i>	<i>1.9%</i>	<i>3.2</i>	<i>0.38%</i>		

**Figure III-9 VMR Image Matching Failure Types**



## **IV. RapidScreen Program Emissions Performance**

### **A. RapidScreen Audit Sample**

A random sample of two percent of vehicles meeting RapidScreen criteria are not mailed notices. Instead of being RapidScreened, these vehicles are brought to a test station to obtain the station-based emission inspection. This random sample of vehicles is used to evaluate the effectiveness of the RapidScreen program.

The number of RapidScreen tests and audit vehicle tests is shown in Table IV-1.

**Table IV-1 RapidScreen Audit Tests**

Type	Tests	Audits	%
RSD	75,405	1,785	2.4%
Hybrid	50,235	1,346	2.7%
LEI	23	162	704.3%
<b>Total</b>	<b>125,663</b>	<b>3,293</b>	<b>2.6%</b>

Audit vehicles are selected by picking the first two out of each hundred vehicles in the VMR table. The actual percentage of audit vehicles is higher than 2% because not all owners of the remaining ninety-eight out of each hundred eligible vehicles respond to their RapidScreen notices. Testing in 2001 of vehicles identified in 2000 as LEI audit vehicles resulted in more audit tests for LEI vehicles than RapidScreen tests. Hence the high percentage of LEI audit tests shown in Table IV-1. Most likely these audit tests were on vehicles that were traded and whose testing date changed.

### **B. RapidScreen Program Effectiveness**

The reporting requirement to make a comparison of the remote sensing records, vehicle profile or model year compared with the actual emissions testing records of the random sample has been interpreted in this RapidScreen Report as an evaluation of the emissions reductions that were obtained by station testing of the audit sample. The effectiveness of the RapidScreen program is then estimated by projecting the result for the random audit sample to all vehicles that were RapidScreened.

#### **1. Pass / Fail Statistics**

The results of the emissions inspections of the RapidScreen audit vehicles are shown in Table IV-2. The table shows the number of audit vehicles receiving each type of tailpipe test. The Gateway Clean Air Program uses four test types at the test stations. These test types were described in section III. B. 1. and are abbreviated in Table IV-2 as follows:

- E – Enhanced area biennial IM240
- 2 – Enhanced area biennial Two-Speed Idle
- 1 – Enhanced area biennial Single-Speed Idle

- B – Basic area annual Single-Speed Idle

The test results of the audit sample are grouped by the RapidScreen method used to select the vehicle. The overall test result includes the tailpipe test and a gas cap pressure test. In aggregate, 0.9% of the 3,293 audit vehicles failed the tailpipe emissions inspection, and 1.3% of the audit vehicles failed the gas cap pressure test. These results are very similar to the results from the first year, except for the LEI method audit vehicles that have a higher failure rate. We believe many of the LEI vehicles were very likely traded and we know from results from Colorado that traded vehicles are more likely to have high emissions. Therefore, the LEI audit sample for 2001 should not be considered representative.

The results in Appendix B4 show that the average tailpipe emissions of the 30 audit vehicles that failed the IM240 test (0.9% of the audit sample) are considerably lower than those of the average vehicle failing the IM240 test.

**Table IV-2 RapidScreen Audit Test Pass / Fail Statistics**

Test Type		Vehicles	Overall Pass	Overall Fail	Tailpipe Pass	Tailpipe Fail	Scr Status
RSD	E	1,714	1,683	31	1,701	13	2
	2	59	58	1	59	-	2
	B	12	11	1	12	-	2
Total		1,785	1,752	33	1,772	13	
			98.2%	1.8%	99.3%	0.7%	
Hybrid	E	1,283	1,256	27	1,272	11	13
	2	34	31	3	34	-	13
	B	29	29	-	29	-	13
Total		1,346	1,316	30	1,335	11	
			97.8%	2.2%	99.2%	0.8%	
LEI	E	153	143	10	147	6	4
	2	1	1	-	1	-	4
	B	8	8	-	8	-	4
Total		162	152	10	156	6	
			93.8%	6.2%	96.3%	3.7%	
ALL	E	3,150	3,082	68	3,120	30	
	2	94	90	4	94	-	
	B	49	48	1	49	-	
Total		3,293	3,220	73	3,263	30	
			97.8%	2.2%	99.1%	0.9%	

## 2. Tailpipe Emissions

In order to evaluate the Gateway Clean Air Program emission reductions and the impact of the RapidScreen component, vehicle test results were sorted by VIN, test date and time. Vehicles were then further classified based on their first and last test result during the period. Interim results are ignored. In the list below, the first and last results are indicated in parenthesis, where P is pass, F is fail, W is waiver and null indicates that there was only a single test result for a

particular vehicle. The expected combinations that apply to the vast majority of vehicles are underlined.

- P – Passed initial test (P/null, P/P, P/F, P/W)
- R – Failed and successfully repaired (F/P)
- U – Failed unresolved (F/null, F/F)
- W – Failed and waived (F/W)

The difference between the initial and final tests is used to determine the percentage of tailpipe emissions reduction of each group<sup>i</sup>. For vehicles with only one test, the final result is the same as the initial result.

### **Adjustment of Fast-Pass Results**

To allow for comparison of emissions of vehicles tested over different durations of the IM240 test cycle, the emission results for vehicles that fast-pass the IM240 inspection must be extrapolated. During the IM240 test, the highest instantaneous gram per mile values occur at second 30 and decrease as the test continues. Gram per mile emissions are highest at the beginning of the test for two reasons. First, some vehicles may not have been properly preconditioned prior to testing, so that their engines and catalytic converters are not fully warmed up, resulting in higher emissions at the start of the test. The emissions of these vehicles decrease once the engine and converter are hot. Second, the first part of the IM240 test simulates urban driving, while the second part of the IM240 test simulates highway driving, and the mass of tailpipe emissions per mile is higher during urban driving than during highway driving.

Several methods have been developed for estimating full test values from fast-pass IM240 test results. The Lawrence Berkeley Livermore Laboratory (LBNL) method developed by Tom Wenzel<sup>6</sup> has been used here. The LBNL method is based on a sample of second-by-second emissions of 4,000 vehicles given the full IM240 in Arizona in 1992. The grams per mile (g/mi) emissions were calculated for each vehicle for each second of the test, by dividing the cumulative grams of emissions over the cumulative distance driven at each second of the test. The g/mi emissions for each second were then averaged over the entire sample. The ratio is calculated of the emissions at each second to the emissions for the full IM240, for each pollutant for each vehicle. The adjustment factors are as high as three for vehicles passed immediately after 30 seconds. Each of the adjustment factor curves reaches unity (1.0) at second 240. The adjustments are greater for HC and CO emissions than for NOx emissions. The simplicity of the LBNL method allows it to be applied to stored IM240 test results.

### **Vehicles with Waivers**

Just over 7,800 vehicles received waivers in 2001. The inspection records for the waiver transaction do not contain tailpipe emission test results. The final emissions data used for these

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<sup>i</sup> Approximately 0.3% of audit vehicles were tested using a different tailpipe procedure on their first and last test and were omitted from the analysis because a direct measurement of the change in emissions was not available. Therefore, 3,284 of the 3,293 audit vehicles (99.7%) are included in the first-last test analysis. An additional 12 audit vehicles had an initial station test prior to being selected as a RapidScreen audit vehicle. These earlier tests, which were all passes, were ignored, and only the tests following the selection of the vehicle for RapidScreen audit purposes were used.

vehicles are, therefore, the results from the last tailpipe emissions inspection preceding the waiver. The reductions shown for these vehicles may not always reflect the final repairs made to the vehicle after it is wavered and may therefore understate the Gateway Clean Air Program emission reductions.

### **First and Final Emissions Results**

When vehicles fail their initial inspection, they must obtain a repair and return for re-inspection. This process is normally completed in 30 days, but can take up to 60 days or longer. To avoid overstating the number of vehicles that have not completed the repair process, the initial and final matching process selects initial tests conducted from January 1, 2001 through December 31, 2001, and final tests conducted from January 1, 2001 through February 28, 2002. This allows 60 days for vehicles to have completed their test and repair cycle, which should be the majority of those that will complete the cycle.

A number of vehicles do not complete the repair-reinspection process. In most cases, these vehicles are either scrapped or removed from the nonattainment area, which does reduce emissions. Surveys in Arizona<sup>7</sup> and Colorado<sup>8</sup> have found that some vehicles continue to operate in the area in violation of the program rules, either with expired license plates or with stolen license plates or license plate stickers. In this report, it is assumed that two-thirds of these unresolved vehicles leave the area and one third continue to operate unlawfully.

Table IV-3 contains an example of the initial and final tailpipe results for 1981 to 1984 passenger vehicles inspected using the IM240 test (with fast-pass test results adjusted according to the LBNL method). The table shows the average initial and average final emissions for each group of vehicles together with the percentage reduction.

For example, of the 1,657 1981 model year passenger vehicles tested using the IM240 transient test, 16.5% of vehicles initially failed inspection and were repaired (Pass) with a 65% to 70% reduction in HC and CO and an 18% reduction in NOx. Another 8.2% of vehicles failed their initial inspection and had not successfully passed a retest by February 28, 2002 (Unresolved). Reductions from these vehicles are estimated to be approximately 67% for HC, CO and NOx, because two thirds are assumed to have left the area. The remaining one third have modest reductions. Finally, 12.3% of vehicles were waived (Waiver), and the measured reductions prior to the waiver were 11% HC, and 7% for CO and NOx. In aggregate, including vehicles that passed their initial inspection, emission reductions for 1981 passenger vehicles were 33% for HC, 32% for CO and 10% for NOx.

Complete tables by model year and vehicle type are provided in Appendix B for vehicles tested using the IM240, the Enhanced and Basic area idle test procedures. Tables are also provided for the RapidScreen audit sample vehicles. The aggregate results from these tables (See Appendix B4) are used to estimate the air quality impact of the RapidScreen program on the effectiveness of the Gateway Clean Air Program.

### **Audit Sample Reductions and Projected Impact**

Table IV-4 shows the aggregate first and final results for the audit sample and for all the vehicles that were tested in stations. The emissions reductions from the audit sample are used to project the reductions that could have been achieved if the vehicles that were RapidScreened had instead been inspected at the stations. This amount is then compared to the total emission reductions

from vehicles tested at stations to determine the impact of the RapidScreen program and the percentage of emissions reductions retained.

For vehicles subject to the IM240 test, the RapidScreen program retained 95.0% of HC reductions, 96.4% of CO reductions and 97.3% of NOx reductions. These reductions assume all vehicles are driven the same number of miles each year. Mileage adjusted emission reductions are calculated in section VII. C.

For vehicles subject to either the Enhanced or Basic area idle tests, the RapidScreen program had no material effect on the potential tailpipe emission reductions from these vehicles. In other words, the RapidScreen program retained 100% of the HC and CO reductions from these vehicles.

**Table IV-3 Transient Test Emission Reductions for 1981-1984 Passenger Vehicles**  
**Missouri Transient Test Emissions Reductions**

Unresolved fails remaining in area					33%			Reduction %					
Model Year/Type	First Result	Last Result	Vehicles	Fail%	Initial HC	Initial CO	Initial NOX	Final HC	Final CO	Final NOX	HC	CO	NOX
1981	Pass	-	1,043		0.87	13.15	2.06	0.87	13.15	2.06	0.0%	0.0%	0.0%
	P Fail	Pass	274	16.5%	2.92	50.93	2.38	1.03	15.91	1.95	64.7%	68.8%	18.1%
	P Fail	Unresolv.	136	8.2%	6.64	99.75	2.15	2.29	34.26	0.71	65.6%	65.7%	67.2%
	P Fail	Waiver	204	12.3%	5.60	99.58	2.45	4.98	93.00	2.27	11.0%	6.6%	7.3%
Total	Fail%		1,657	37.1%	2.26	37.15	2.17	1.52	25.17	1.96	32.9%	32.2%	9.8%
1982	Pass	-	386		0.93	11.94	2.49	0.93	11.94	2.49	0.0%	0.0%	0.0%
	P Fail	Pass	83	13.8%	2.91	51.51	2.36	0.96	13.43	1.87	66.9%	73.9%	20.8%
	P Fail	Unresolv.	78	12.9%	6.75	100.97	2.22	2.38	35.43	0.65	64.7%	64.9%	70.6%
	P Fail	Waiver	56	9.3%	5.20	82.01	2.89	5.53	84.34	2.27	-6.4%	-2.8%	21.2%
Total	Fail%		603	36.0%	2.35	35.41	2.47	1.55	21.91	2.15	34.2%	38.1%	13.2%
1983	Pass	-	2,747		0.83	9.78	2.40	0.83	9.78	2.40	0.0%	0.0%	0.0%
	P Fail	Pass	504	13.3%	2.89	44.96	2.67	0.94	11.34	2.45	67.3%	74.8%	8.3%
	P Fail	Unresolv.	244	6.4%	5.42	96.87	2.19	1.74	31.47	0.76	67.8%	67.5%	65.5%
	P Fail	Waiver	295	7.8%	5.81	85.10	2.47	5.24	81.00	2.45	9.8%	4.8%	1.1%
Total	Fail%		3,790	27.5%	1.79	25.93	2.43	1.25	16.93	2.30	30.2%	34.7%	5.1%
1984	Pass	-	1,501		0.90	10.21	2.40	0.90	10.21	2.40	0.0%	0.0%	0.0%
	P Fail	Pass	249	11.7%	3.20	49.29	2.49	0.95	10.80	2.31	70.2%	78.1%	7.5%
	P Fail	Unresolv.	223	10.5%	5.12	80.55	2.59	1.62	26.19	0.87	68.4%	67.5%	66.3%
	P Fail	Waiver	155	7.3%	5.23	86.74	2.27	4.97	84.76	2.22	4.8%	2.3%	2.1%
Total	Fail%		2,128	29.5%	1.92	27.73	2.42	1.28	17.39	2.21	33.7%	37.3%	8.5%

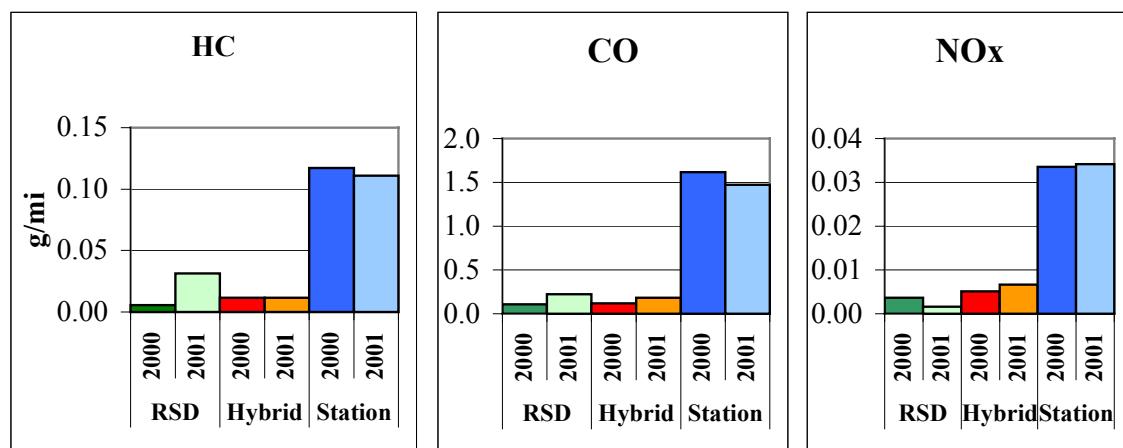
**Table IV-4 RapidScreen Emissions Impact**

	IM240 Tailpipe Emissions				Enhanced Idle Tailpipe			Basic Idle Tailpipe		
	Vehicles	HC g/mi	CO g/mi	NOx g/mi	Vehicles	HC ppm	CO %	Vehicles	HC ppm	CO %
<b>Audit Sample</b>	3,142				94			48		
Mean Initial		0.312	3.39	0.951		44.106	0.082		25.104	0.041
Mean Final		0.287	3.16	0.947		45.511	0.087		25.125	0.041
Emissions reduction		0.025	0.23	0.004		-1.404	-0.005		-0.021	0.000
<b>RapidScreens</b>	120,149				4,090			1,424		
Potential Reductions		3,000	28,136	488		(5,744)	(22)		(30)	-
<b>Station Vehicles</b>	510,783				26,950			52,580		
Mean Initial		0.620	7.08	1.317		249.66	1.101		93.10	0.354
Mean Final		0.509	5.61	1.283		172.92	0.877		68.39	0.230
Emissions reduction		0.111	1.47	0.034		76.74	0.224		24.71	0.124
In station reductions		56,682	751,486	17,434		2,068,259	6,030		1,299,256	6,545
Combined RS & Stn	630,932	59,682	779,622	17,923	31,040	2,062,515	6,008	54,004	1,299,226	6,545
Rapid Screen Impact		5.0%	3.6%	2.7%		-0.3%	-0.4%		0.0%	0.0%
Retained Reductions		95.0%	96.4%	97.3%	100.0%	100.3%	100.4%	100.0%	100.0%	100.0%

The average per vehicle emission reductions for audit vehicles receiving an IM240 test (the majority of RapidScreen-eligible vehicles would be subject to an IM240 test based upon their model year) and other vehicles tested at stations are compared by RapidScreen test method in Figure IV-1 for the startup period and 2001. For convenience, the startup period is labeled as 2000 but in fact covered testing from the start of the program in 2000 through March 2001. Note that the average reductions from the RapidScreen audit vehicles selected using the RSD or Hybrid method are much smaller than the average reductions from the vehicles that are not RapidScreened and instead tested at an inspection station. These charts illustrate that, even though some of the RapidScreened vehicles failed a station test, RapidScreened vehicles have smaller amounts of repairable emissions than do non-RapidScreened vehicles.

Among the RapidScreen test methods used, the RSD method selected vehicles with the highest likelihood of passing the station-based IM240 tailpipe test during the startup period. In 2001, the Hybrid method selected vehicles with the highest likelihood of passing the station-based IM240 tailpipe test. Therefore, the exemption of vehicles using this method retained the greatest air quality benefit. For 2001, the effectiveness of the RapidScreen program has remained similar to the startup period.

**Figure IV-1 Average Per Vehicle IM240 Emission Reductions**



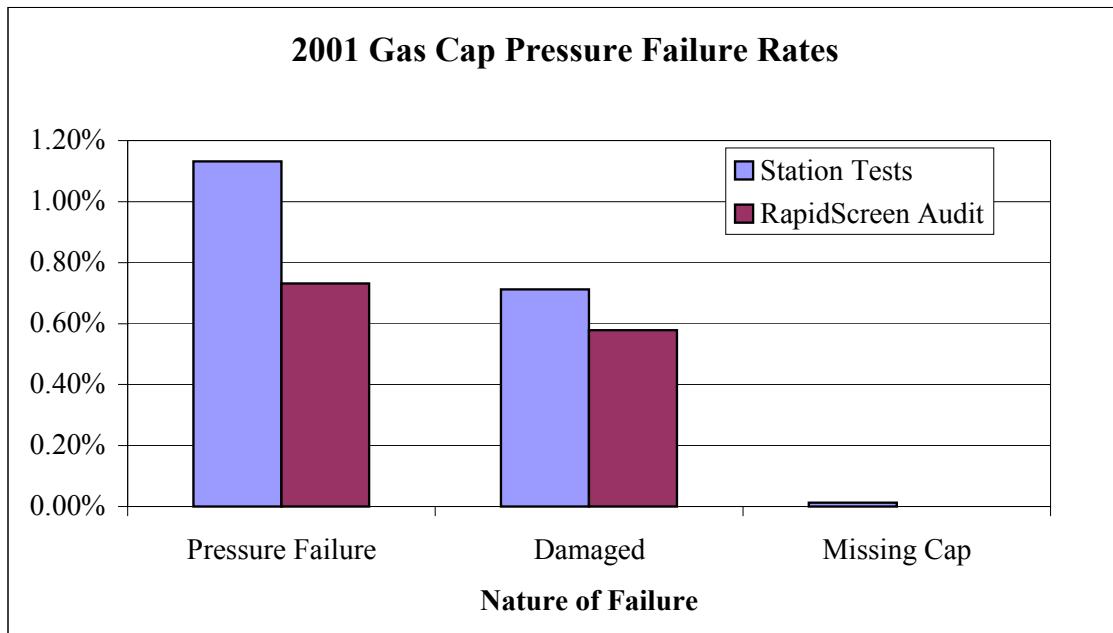
### C. Evaporative Emissions

The evaporative emissions test used in the Gateway Clean Air Program is a gas cap pressure test. Leaking gas caps allow evaporated gasoline (HC) to escape from vehicle gas tanks into the atmosphere. The impact of the RapidScreen program is only evaluated in this report in terms of the failure rate, not in terms of repairable gas cap emissions reductions<sup>i</sup>.

<sup>i</sup> Although the gas cap leak rates are measured in the Gateway Clean Air Program, it is not clear that leak rates are directly related to the amount of evaporative HC emissions released from the gas tank. A small pressure leak may have the same effect as a large pressure leak, as long as it is sufficient to release internal gas tank pressure over a period of an hour or so.

Figure IV-2 compares the average gas cap failure rate of the RapidScreen audit sample vehicles to the average failure rate of the non-RapidScreened vehicles tested at stations. The failure rate of vehicles RapidScreened is lower than the failure rate of vehicles that received a station-based test, but the difference between the two groups of vehicles is not as great as it was for tailpipe emissions (See Figure IV-1). This result is expected because remote sensing is directed towards measuring tailpipe emissions. An evaporative leak would have to be quite large to be detected by RSD units. There were no vehicles with missing gas caps found among the RapidScreen audit sample.

**Figure IV-2 Average Gas Cap Pressure Failure Rates**



Using the fail rates identified in the audit sample, Table IV-5 shows the projected gas cap failures that would have been found in the vehicles that were RapidScreened<sup>i</sup>. These projected gas cap failures are added to the actual gas cap failures identified in initial inspections at the test stations to provide the total possible gas cap failure rate for the program. RapidScreen vehicles account for 13% of the total possible gas cap failures. Therefore, 87% of the possible evaporative HC emission reductions were retained.

<sup>i</sup> Only 1981 and newer model year vehicles are gas cap tested. Therefore, fewer vehicles are given a gas cap test (582,404) than are given a tailpipe test (590,313).

**Table IV-5 RapidScreen Impact on Evaporative HC Emissions**

	<b>Initial Tests</b>	<b>Pressure Failure</b>	<b>Missing Damaged</b>	<b>Missing Cap</b>	<b>Total</b>
RapidScreen Audit	3,283	0.73%	0.58%	0.00%	1.31%
Projected RapidScreen	125,663	919	727	-	1,646
Station GC Tests	582,404	6,591	4,145	74	10,810
<b>Total Program</b>	<b>708,067</b>	<b>7,510</b>	<b>4,872</b>	<b>74</b>	<b>12,456</b>
RapidScreen Impact	18%	12%	15%	0%	13%
Retained Reductions	82%	88%	85%	100%	87%

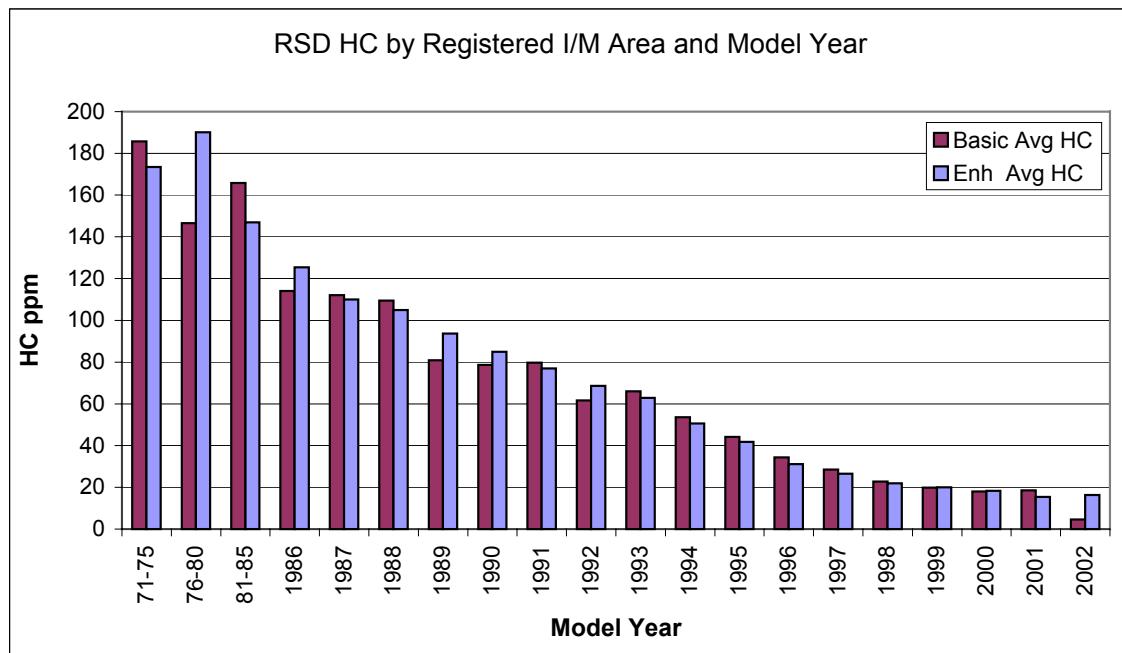
## V. On-Road Testing Results

The remote sensing measurements collected during the startup period have been used to plot charts of the on-road vehicle emissions of vehicles registered to the Basic and Enhanced areas. For fleet evaluation and high emitter identification, it is useful to use remote sensing measurements that are within the range of engine operating conditions over which emissions are intended to be controlled. As noted in section III. A. 1., only the RSD measurements of vehicles operating within the vehicle specific power range of 5 to 25 kW/t have been used for the analysis in section V.

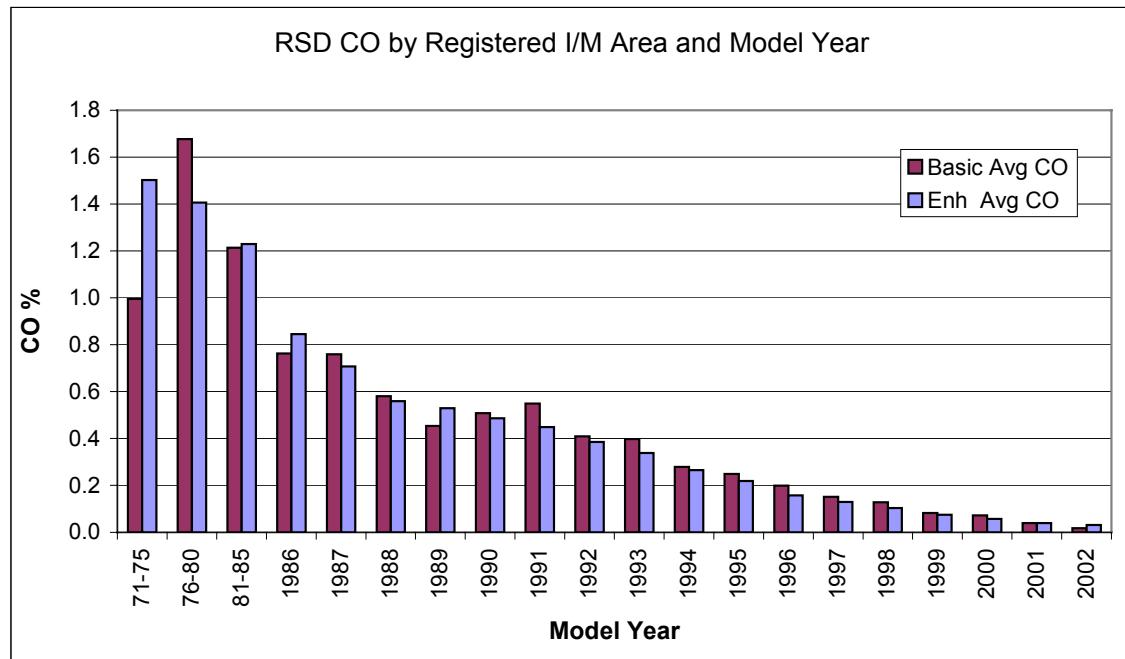
### A. *Basic and Enhanced Area On-Road Emissions*

Figures V-1 through V-3 show the average measured emissions by model year of vehicles registered in the Basic area and Enhanced areas. In the startup period, vehicles in the Basic area had slightly higher emissions for all three pollutants than those in the Enhanced area. The on-road measurements for 2001 indicate this continues to be true, especially for NOx emissions because the idle test does not measure vehicles for NOx. Prior to 2000, Basic area vehicles were not subject to any emissions test. Beginning in April 2000, Basic area vehicles are now being tested using a less stringent idle test once every year whereas enhanced area vehicles are tested using a more stringent IM240 test once every two years.

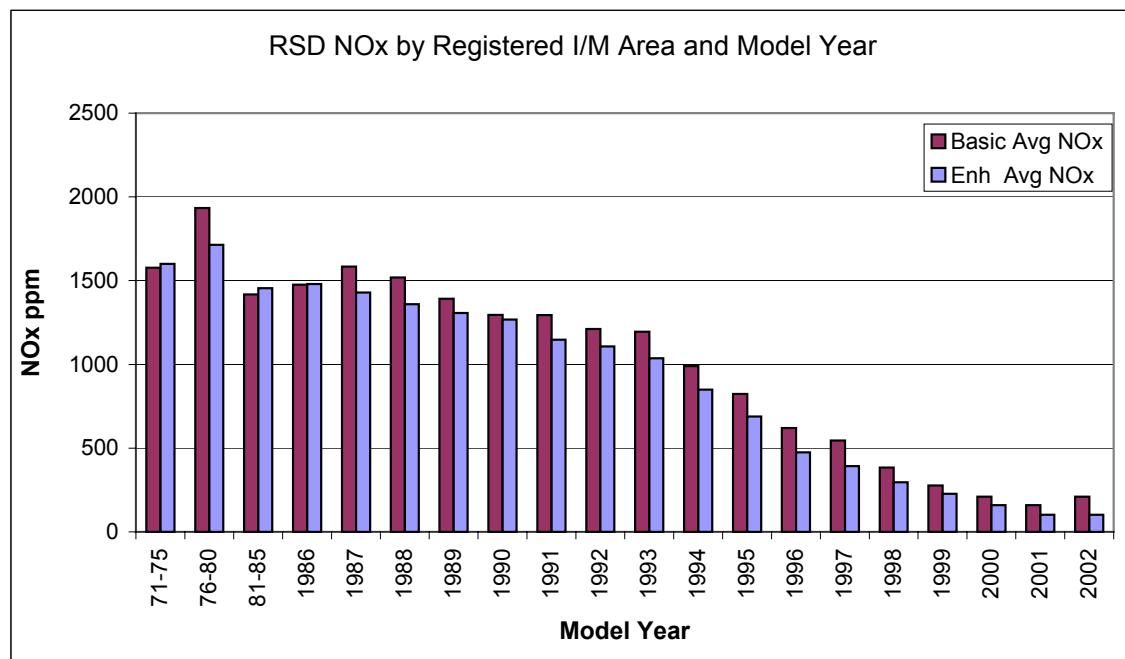
**Figure V-1 RSD HC Emissions by Model Year**



**Figure V-2 RSD CO Emissions by Model Year**



**Figure V-3 RSD NOx Emissions by Model Year**



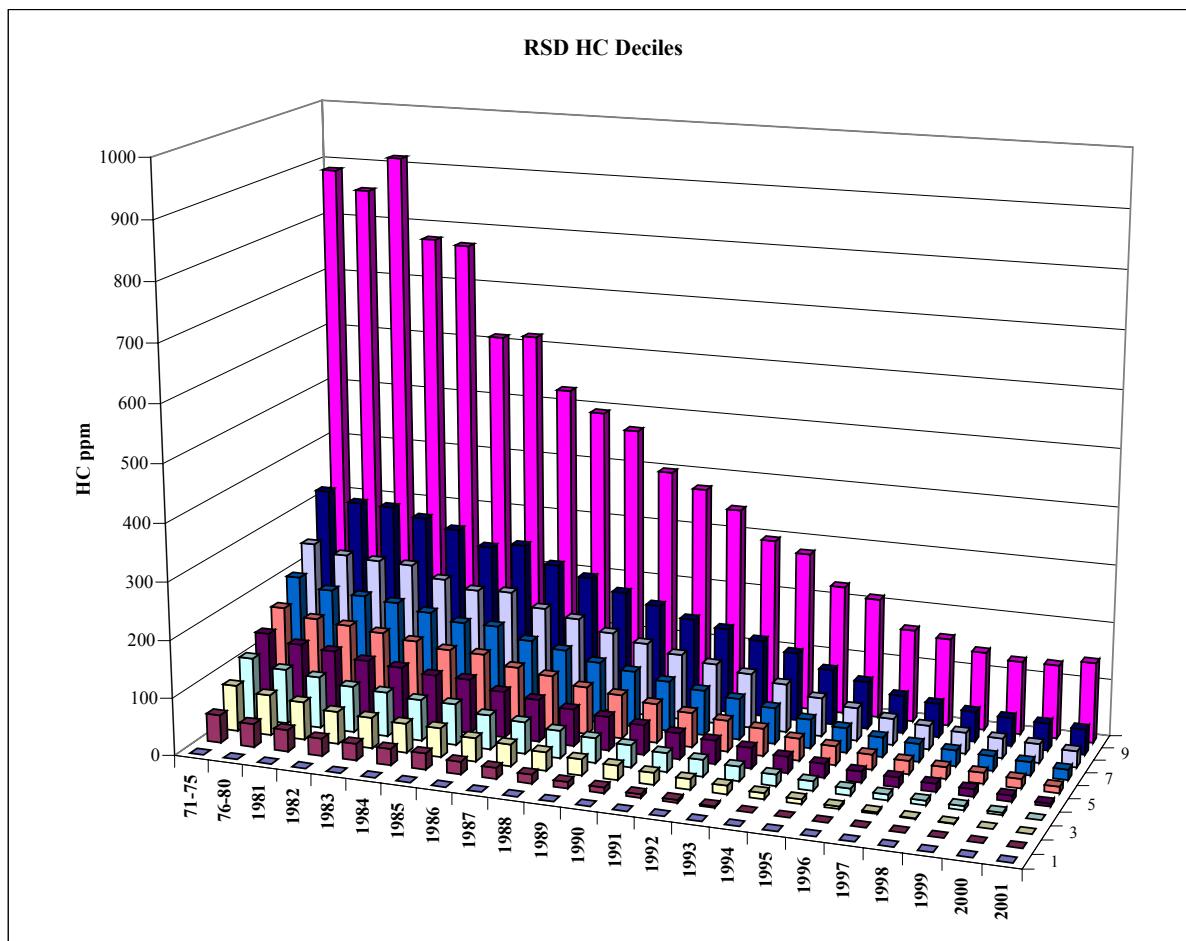
#### B. Enhanced Area On-Road Emission Deciles by Model Year

Figures V-4 through V-6 illustrate the emissions impact within each model year of vehicle registration in the Enhanced area. Only remote sensing measurements falling within the VSP

range of 5-25kW/t were used. If the vehicle was seen more than once, the measurements were averaged to obtain a single result per vehicle. For each pollutant, vehicles were ranked and divided into ten groups per model year with each decile containing 10% of the vehicles. The vertical bars show the average emissions of each decile.

These three figures illustrate that there are low emitting and high emitting vehicles in all model years, but that the proportion of low emitting vehicles is much greater among newer vehicles. The level of emissions among the highest emitting decile of vehicles in each model year is much higher for the older vehicles.

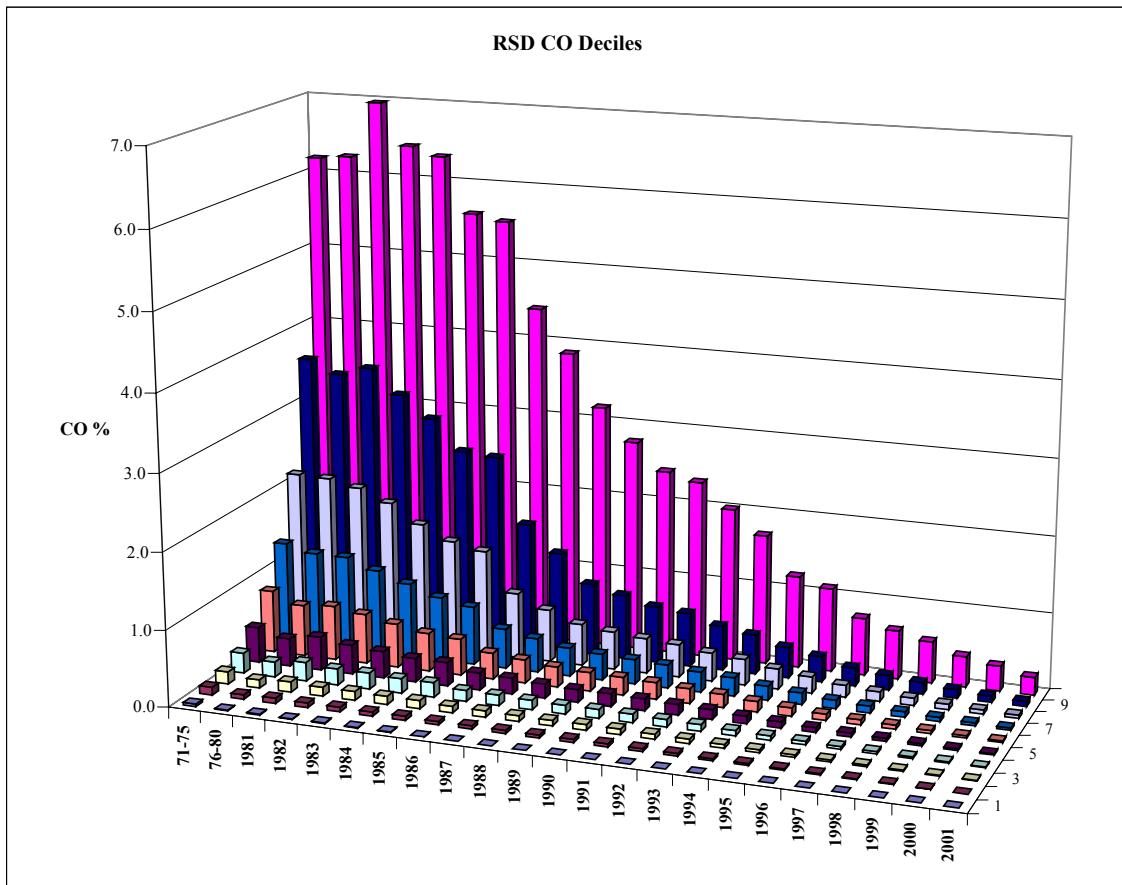
**Figure V-4 Enhanced Area Vehicle HC Deciles by Model Year**



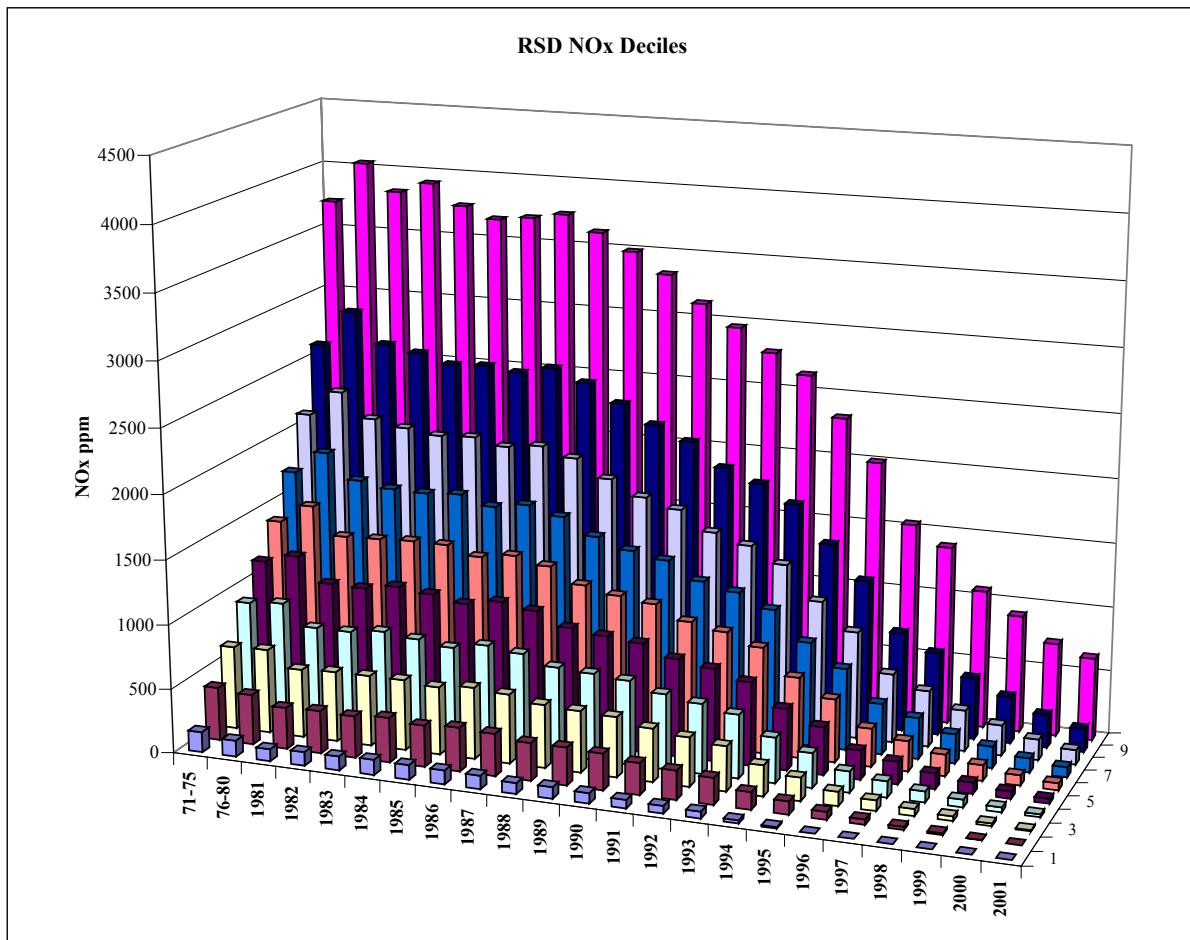
The shape of these three charts suggests that the HC and CO emissions have been maintained at lower levels as a result of the basic I/M program that was in place in the St. Louis area (except Franklin County) prior to 2000. The prior basic I/M program tested and failed vehicles for HC and CO, but not for NOx. The shape of these three charts could also suggest that newer vehicle technology has been more successful in controlling HC and CO than in controlling NOx.

NOx emissions appear to be much more evenly distributed throughout the fleet. It is unclear whether the increase in measured on-road NOx emissions from newer to older model years is purely related to vehicle age or is a mixture of improved technology and age.

**Figure V-5 Enhanced Area Vehicle CO Deciles by Model Year**



**Figure V-6 Enhanced Area Vehicle NOx Deciles by Model Year**

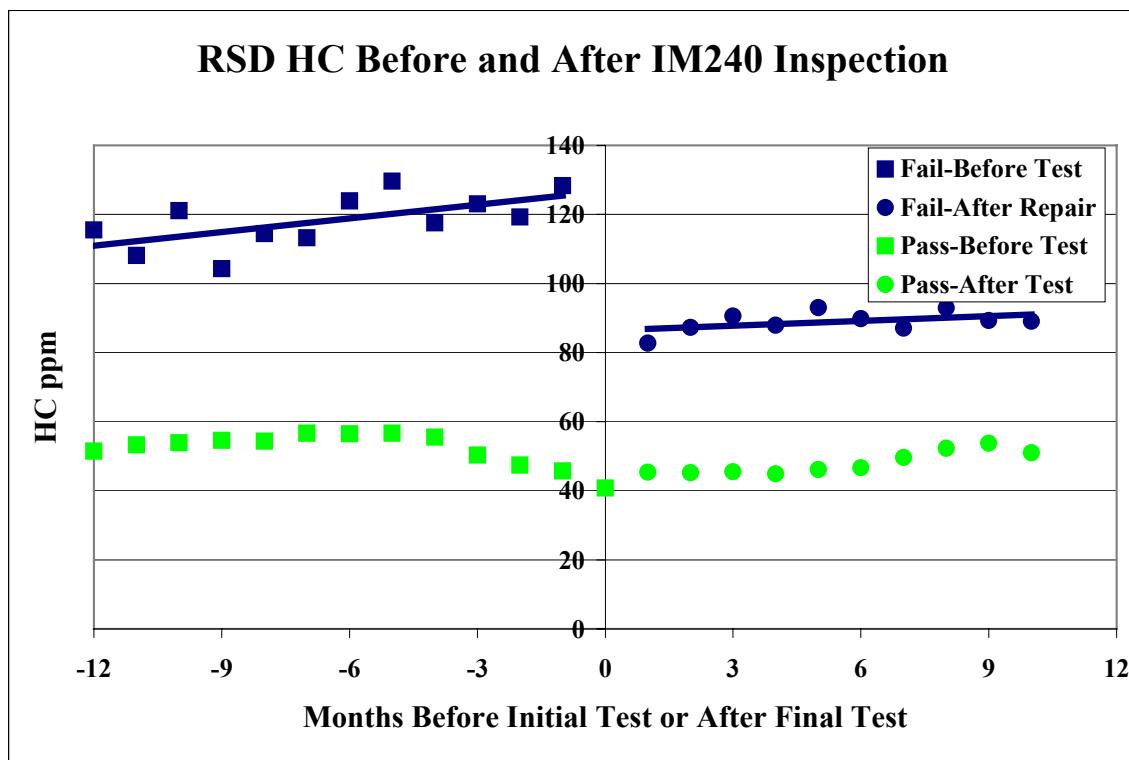


### C. On-Road Emissions of Vehicles Before and After I/M Inspection

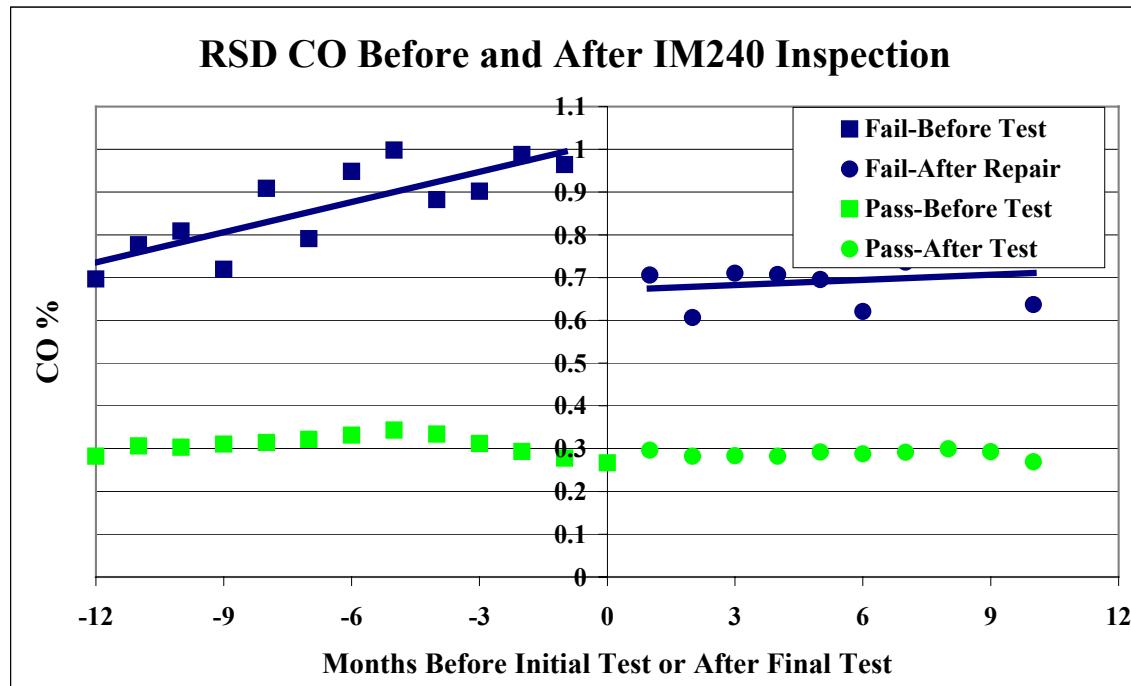
Figures V-7 through V-9 show emissions of vehicles in the Enhanced I/M area measured before their initial IM240 test and after their final IM240 test. Figures V-7 and V-8 show there are significant reductions in HC and CO emissions for failing vehicles after the vehicles have been repaired. Most of the reduction appears to be retained during the following twelve months. Figure V-9 shows a smaller reduction in NOx emissions.

It appears that average HC, CO and NOx emissions in the set of vehicles that will pass the test decrease just before inspection. This reduction is probably the result of pre-inspection repairs and tune-ups, which is a benefit that is not traditionally measured by I/M test results. Seasonal or other factors may also be affecting the on-road emission levels. More detailed investigation is required to quantify the benefit of pre-inspection repairs and its longevity and to investigate seasonal effects.

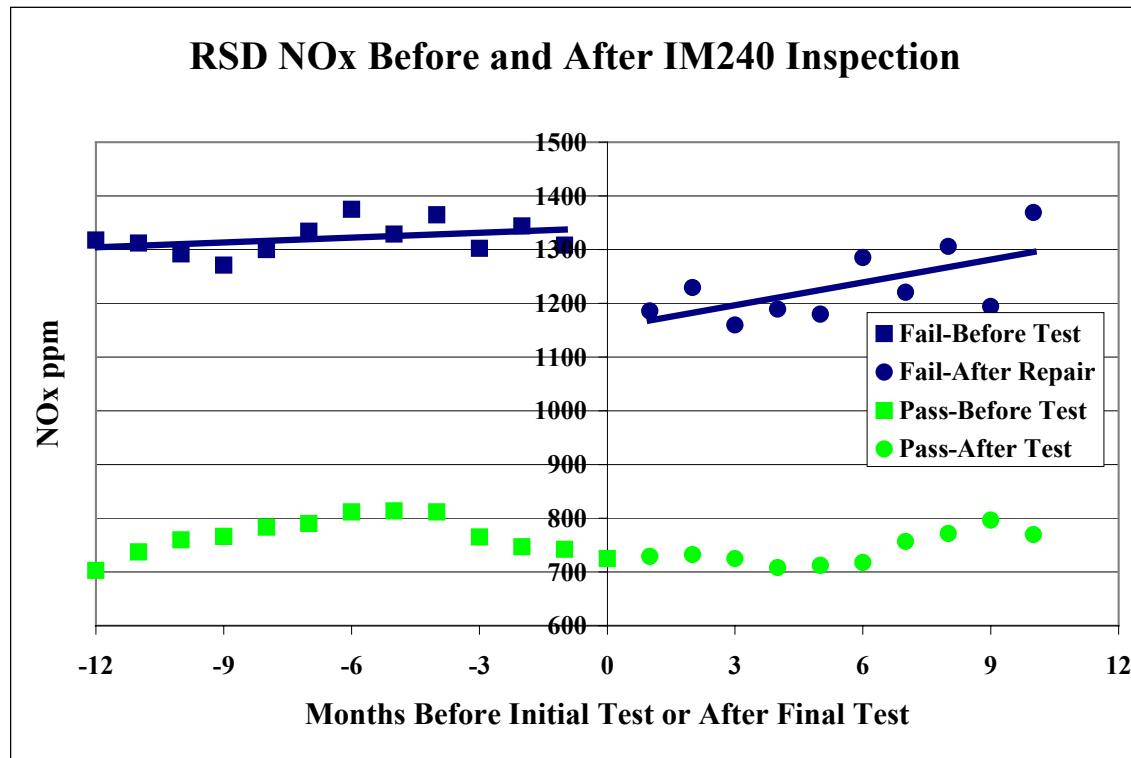
**Figure V-7 RSD HC Emissions Before and After IM240 Test**



**Figure V-8 RSD CO Emissions Before and After IM240 Test**



**Figure V-9 RSD NOx Emissions Before and After IM240 Test**



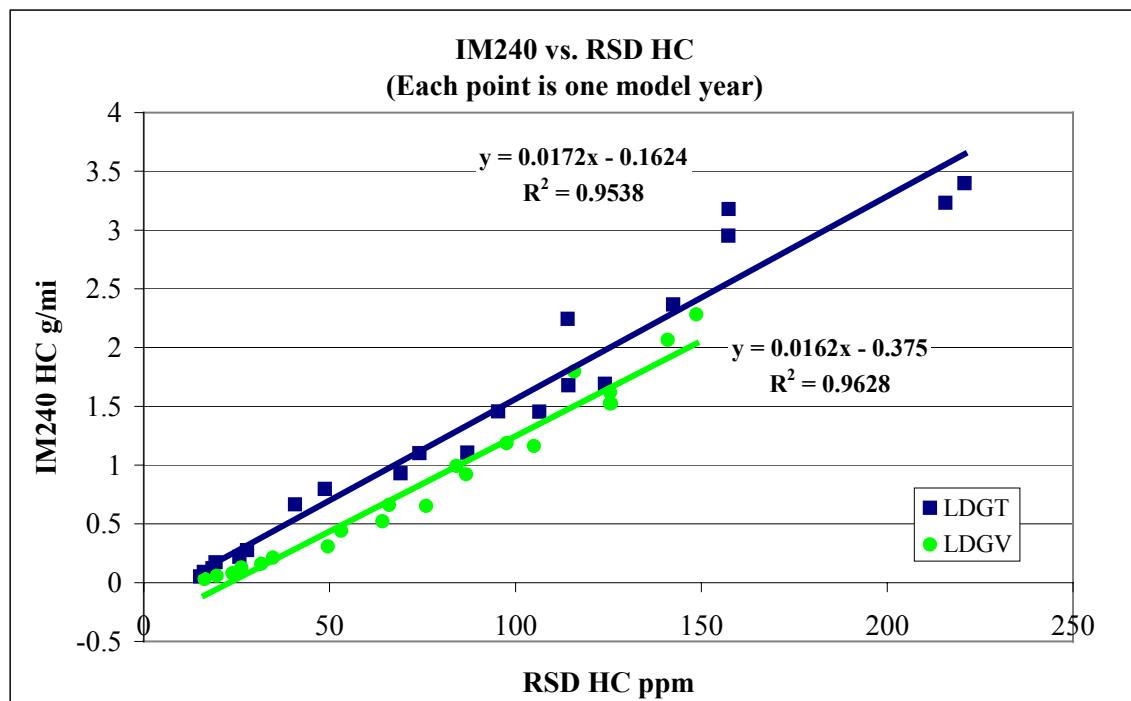
## VI. Correlation of I/M Test Results and Remote Sensing

To obtain a correlation between remote sensing measurements and station-based measurements, average remote sensing emissions were calculated for each unique vehicle using RSD measurements with a vehicle specific power between 5 and 25 kW/t. For vehicles that had been station tested, average RSD emission values were calculated by vehicle type and model year and compared to the station-based test result averages. In order to maintain as large a sample as possible, all remote sensing measurements were used, regardless of whether they occurred before or after the I/M test. The average of the initial and final station test results were used for comparison.

### A. IM240 Test vs. Remote Sensing Correlation

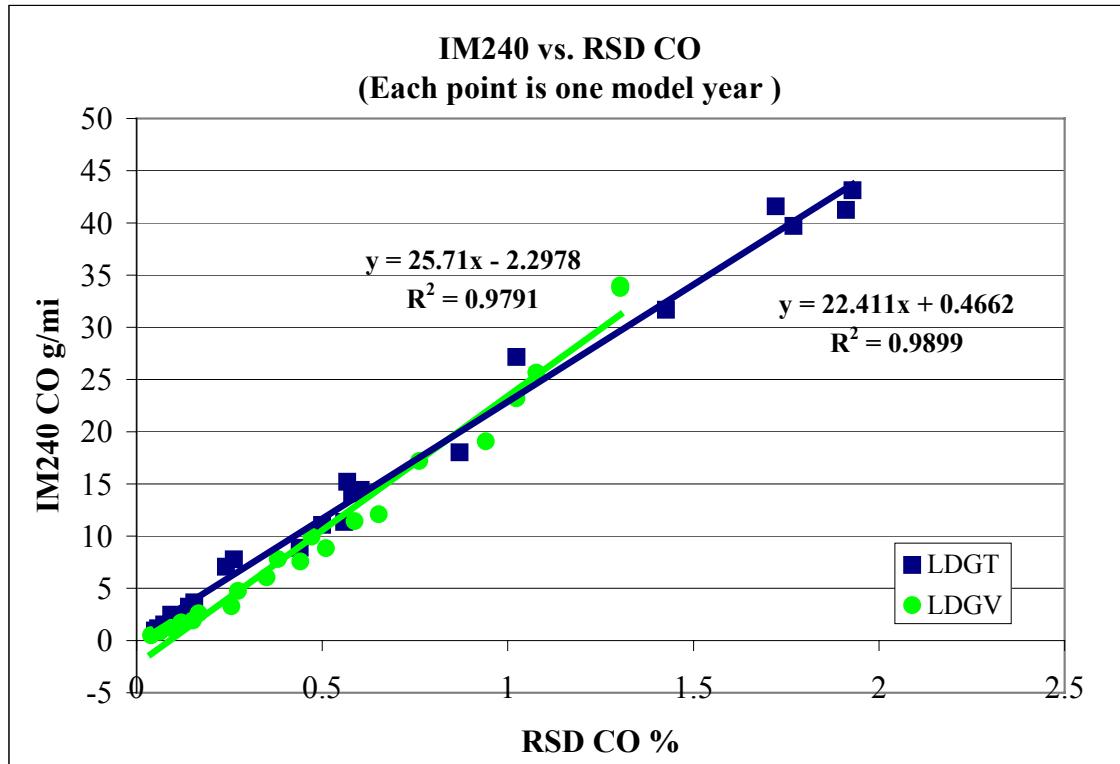
Figures VI-1 through VI-3 show good correlations ( $R^2$  values are close to 1.0) between remote sensing and IM240 test averages by model year for all pollutants<sup>i</sup>. LDGTs have relatively higher IM240 mass emission results for a given remote sensing concentration than LDGVs because of their larger size, larger engines and greater fuel consumption. In 2001, this distinction between trucks and passenger vehicles appears to have diminished for older vehicles for CO (see Figure VI-2). In other cases, these figures for 2001 are very similar to those from the startup period.

**Figure VI-1 IM240 vs. RSD HC by Model Year**

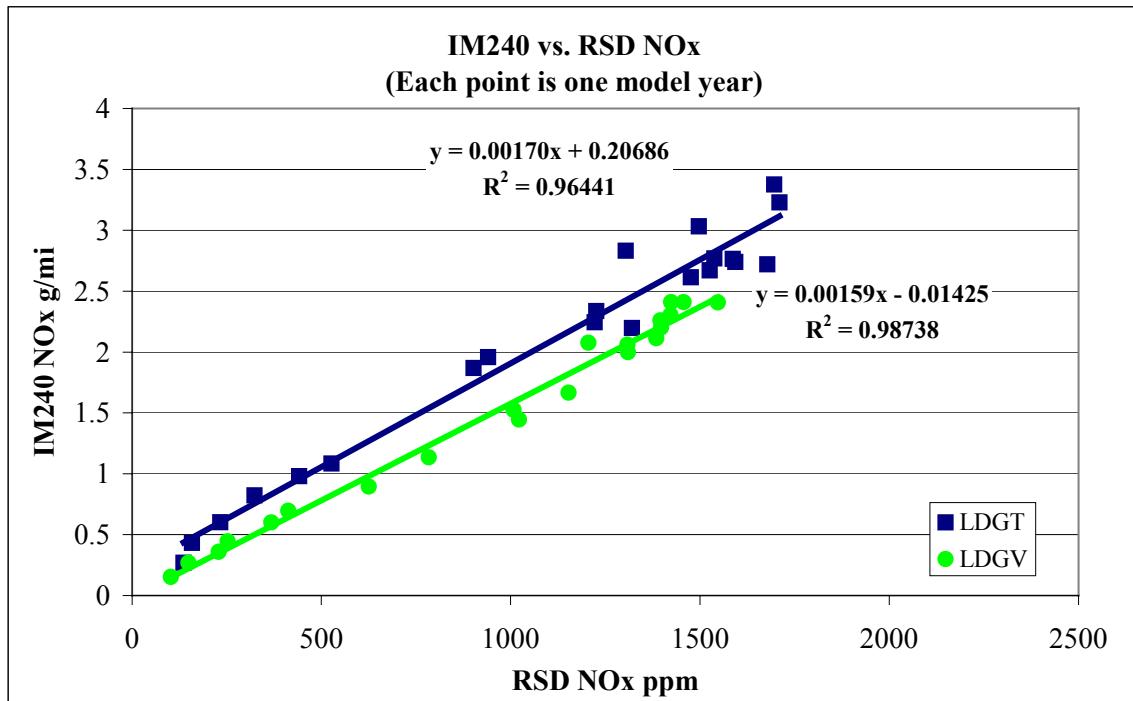


<sup>i</sup> The remote sensing results for CO and NOx pass close to the origin. For HC, however, there is an offset of about 25 ppm.

**Figure VI-2 IM240 vs. RSD CO by Model Year**



**Figure VI-3 IM240 vs. RSD NOx by Model Year**



### **B. Idle Test vs. Remote Sensing Correlation**

Figures VI-4 and VI-5 show the correlations between remote sensing and idle test results for vehicles registered in the Basic and Enhanced areas. Because NOx emissions are not measured during idle tests, there is no NOx correlation chart. The vertical order of the regression lines matches the order of the legends. For simplicity, regressions were forced through zero since doing so had no noticeable impact on either the slopes or the  $R^2$  values.

LDGTs again have somewhat higher idle test results than LDGVs for a given RSD measurement. This result is smaller in 2001 than in the startup period.

Only a few vehicles receive idle tests in the enhanced area. These include some four-wheel drive vehicles, certain vehicles with traction control, and 1981 and older vehicles. Enhanced area HC idle test results have higher values than Basic area HC idle test results (See Figure VI-4). In contrast, Enhanced area CO idle test results have relatively lower values than Basic area CO idle test results (See Figure VI-5)<sup>i</sup>. These results were more pronounced during the startup period.

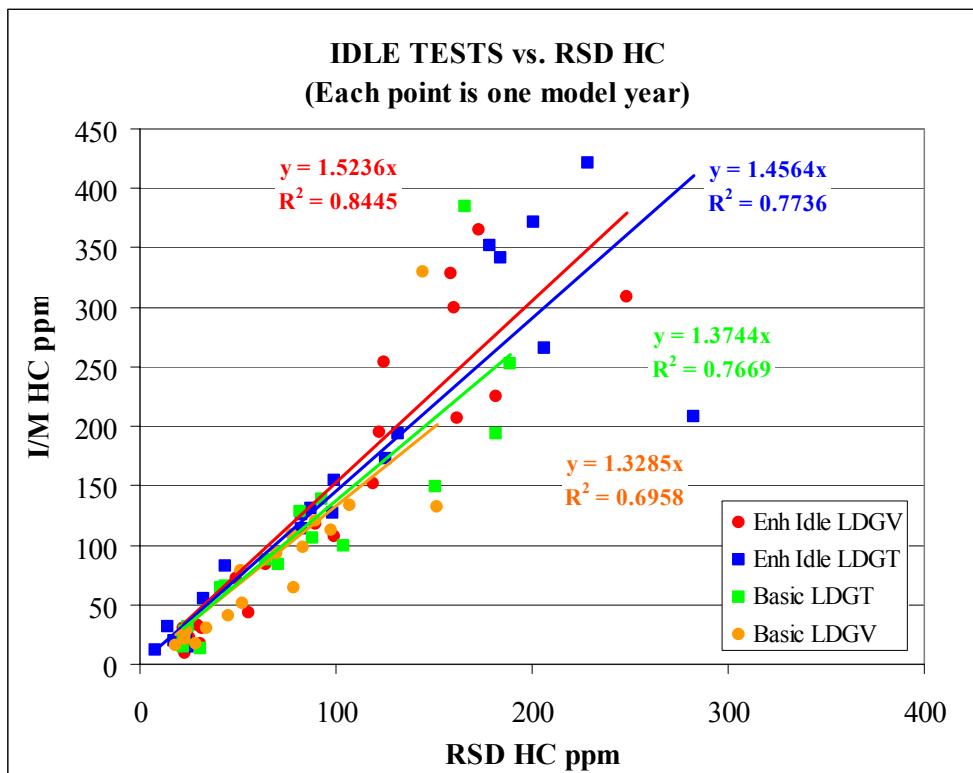
Since the charts compare concentration measurements with the same units, one might expect the slope of these two charts to be close to unity (1.0). However, vehicles are measured under no load during the idle test, but under moderate load by on-road RSD units. Because of the difference in testing conditions, the tests are not directly comparable.

As indicated by the  $R^2$  values in Figures VI-1 through VI-5, the correlations between remote sensing and idle test results are not as high as the correlations between remote sensing and IM240 test results. This result is expected, because, unlike the idle test, the IM1240 test is designed to simulate real world driving conditions that are similar to the conditions under which RSD units measure vehicles on-road.

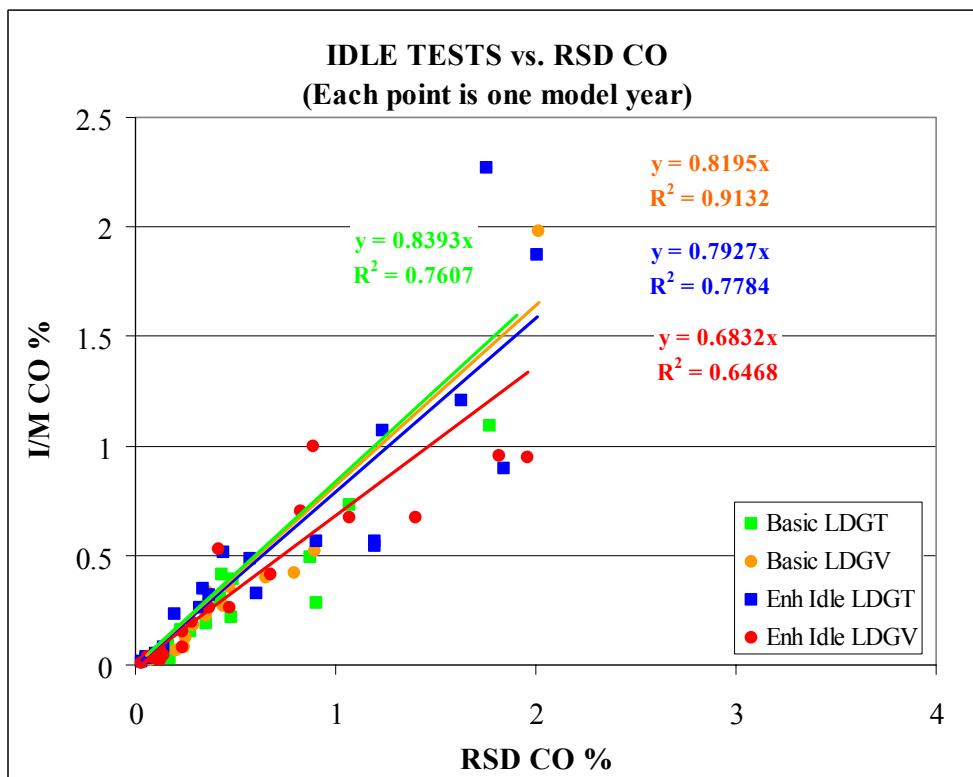
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<sup>i</sup> The same test equipment is used in the enhanced and basic areas, so test equipment does not explain the difference in the correlations.

**Figure VI-4 Idle Test vs. RSD HC by Model Year**



**Figure VI-5 Idle Test vs. RSD CO by Model Year**



## VII. Estimate of Combined Program Reductions

In section IV. B. 2., percentage reductions from the Gateway Clean Air Program were estimated for each model year. In order to estimate the overall RapidScreen impact, two additional tasks remain: the conversion of idle test emission results from concentration to mass equivalents, and the weighting of emission results by the average number of annual miles driven.

### A. Conversion of Idle Test Results

Because the correlation of a station test method to an on-road test method is independent of the cutpoints for either method, the remote sensing measurement correlations developed in section VI. A. are used to convert all test values to IM240-equivalent values.

For comparison the IM240 test correlations for 2001 and the startup period are summarized in Table VII-1, where:

$$\text{IM240 (g/mi)} = (A \times \text{RSD}) + B$$

**Table VII-1 IM240 vs. RSD Correlation**

January – December 2001

Emission	Type	A	B	R2
HC	LDGV	0.0162	-0.3750	0.96
HC	LDGT	0.0172	-0.1624	0.95
CO	LDGV	25.71	-2.30	0.98
CO	LDGT	22.41	0.47	0.99
NOx	LDGV	0.0016	-0.0143	0.99
NOx	LDGT	0.0017	0.2069	0.96

Startup (January 2000 – March 2001)

Emission	Type	A	B	R2
HC	LDGV	0.0149	-0.4193	0.97
HC	LDGT	0.0169	-0.2702	0.88
CO	LDGV	25.58	-2.31	0.97
CO	LDGT	26.63	-0.73	0.92
NOx	LDGV	0.0016	-0.0555	0.99
NOx	LDGT	0.0017	0.2003	0.98

The correlation factors (the R2 column) between RSD and IM240 for 2001 are similar to those found for the startup period and are nearly unity (1.0), meaning a high degree of correlation.

The idle test correlations are summarized in Tables VII-2 and VII-3, where:

$$\text{Idle Test (ppm or \%)} = C \times \text{RSD}$$

**Table VII-2 Enhanced Idle vs. RSD Correlation**

January – December 2001

Emission	Type	C	R2
HC	LDGV	1.524	0.84
HC	LDGT	1.456	0.77
CO	LDGV	0.683	0.65
CO	LDGT	0.793	0.78

Startup (January 2000 – March 2001)

Emission	Type	C	R2
HC	LDGV	1.236	0.87
HC	LDGT	1.522	0.83
CO	LDGV	0.543	0.67
CO	LDGT	0.702	0.68

**Table VII-3 Basic Idle vs. RSD Correlation**

January – December 2001

Emission	Type	C	R2
HC	LDGV	1.329	0.69
HC	LDGT	1.374	0.77
CO	LDGV	0.820	0.91
CO	LDGT	0.839	0.76

Startup (January 2000 – March 2001)

Emission	Type	C	R2
HC	LDGV	0.982	0.60
HC	LDGT	1.266	0.79
CO	LDGV	0.644	0.43
CO	LDGT	0.813	0.80

Rearranging the idle test RSD equation yields:

$$\text{RSD} = (1 / C) \times \text{Idle Test.}$$

This is substituted into the IM240 correlation to give:

$$\text{IM240 (g/mi)} = A \times [(1 / C) \times \text{Idle Test}] + B$$

Or,

$$\text{IM240 (g/mi)} = [(A / C) \times \text{Idle Test}] + B$$

The resulting idle test to IM240 test conversion factors are summarized in Tables VII-4 and VII-5. The idle test vs. RSD correlation factors are not as close to unity as the IM240 vs. RSD

correlation factors are as shown by the R<sub>2</sub> values in the Tables VII-2 and VII-3. Because the degree of correlation is reduced, the calculation of mass emissions from idle test measurements is more of an approximation.

**Table VII-4 Enhanced Idle to IM240 Conversion**

January – December 2001

Emission	Type	(A / C)	B
HC	LDGV	0.0106	-0.3750
HC	LDGT	0.0118	-0.1624
CO	LDGV	37.63	-2.30
CO	LDGT	28.27	0.47

Startup (January 2000 – March 2001)

Emission	Type	(A / C)	B
HC	LDGV	0.0121	-0.4193
HC	LDGT	0.0111	-0.2702
CO	LDGV	47.13	-2.31
CO	LDGT	37.95	-0.73

**Table VII-5 Basic Idle to IM240 Conversion**

January – December 2001

Emission	Type	(A / C)	B
HC	LDGV	0.0122	-0.3750
HC	LDGT	0.0125	-0.1624
CO	LDGV	31.37	-2.30
CO	LDGT	26.70	0.47

Startup (January 2000 – March 2001)

Emission	Type	(A / C)	B
HC	LDGV	0.0152	-0.4193
HC	LDGT	0.0133	-0.2702
CO	LDGV	39.73	-2.31
CO	LDGT	32.77	-0.73

## **B. Annual Mileage Weighting**

Because of possible data entry errors and odometer rollover on older, high mileage vehicles, obtaining estimates of annual mileage from the Gateway Clean Air Program odometer readings for each model year and type of vehicle is not recommended. To avoid these problems, the national average annual mileages that EPA developed as part of the development of the Mobile6 inventory model<sup>9</sup> have been used.

The estimated annual mileages are shown in Table VII-6 for LDGVs and LDGTs. Since EPA gives separate estimates of mileage for LDGTs below and above 6,000 pounds GVWR, an assumption of an 80:20 mix of these trucks, respectively, has been used to generate Table VII-6. This table indicates that newer model year vehicles are driven more miles annually than older vehicles. It also indicates that 1988 and newer model year LDGTs, which emit greater masses of pollution than LDGVs (See section VI. A.), are driven more miles annually than 1988 and newer model year LDGVs.

**Table VII-6 Estimated Annual Mileage**

<b>Year</b>	<b>LDGV</b>	<b>LDGT</b>
1981 &		
older	5,420	4,154
1982	5,701	4,588
1983	5,997	5,055
1984	6,308	5,556
1985	6,636	6,093
1986	6,980	6,663
1987	7,342	7,269
1988	7,723	7,911
1989	8,124	8,589
1990	8,546	9,305
1991	8,989	10,057
1992	9,456	10,849
1993	9,947	11,681
1994	10,463	12,553
1995	11,006	13,465
1996	11,577	14,420
1997	12,178	15,417
1998	12,810	16,459
1999	13,475	17,546
2000	14,174	18,680
2001	14,910	19,863

### **C. Annual Emissions Reductions**

The average initial and final emissions for each test type, vehicle type and model year (See Appendix B) are multiplied by the number of vehicles and the annual mileage to determine the initial and final tons of emissions and, therefore, the tons of reduction. In the case of vehicles tested using the idle test, the results for each year are converted to IM240 equivalents using the conversion equations developed in section VII. A. The results of the computations for each model year are included in Appendix C.

Table VII-7 first shows the reductions from the RapidScreen audit tests. Based on the audit tests, the second part of the table projects the potential reductions from the RapidScreen vehicles if all RapidScreened vehicles had been tested at a station. The third part of the table shows the reductions from the vehicles that were tested at inspection stations, which includes the RapidScreen audit vehicles. The total potential reductions from the program are the combination of the potential reductions from the RapidScreened vehicles plus the actual reductions from the vehicles tested at stations.

In Table IV-4, the RapidScreen emissions impact was expressed without consideration of the annual vehicle miles traveled (VMT) by each model year of vehicles. Table VII-7's more complete analysis shows that the emissions impact of RapidScreen decreases when the VMT estimates are factored in. During 2001, the RapidScreen program retained 96%, 97% and 97% respectively of potential HC, CO and NOx tailpipe emission reductions in vehicles subject to testing.

These calculations show that for the vehicles initially tested in calendar year 2001, the Gateway Clean Air Program eliminated 761 tons of HC, 9,646 tons of CO and 166 tons of NOx for one year of vehicle travel – based on the IM240 driving cycle.

**Table VII-7 Estimated Annual Tons Of Reduction**

<b>Audit Tests</b>	<b>Audit Vehicle Reductions (tons/yr)</b>			
	<b>Unique Vehicles</b>	<b>HC</b>	<b>CO</b>	<b>NOx</b>
Enhanced IM240	3,142	0.86	8.20	0.13
Enhanced Idle	94	-0.02	-0.19	0.00
Basic Idle	48	0.00	0.00	0.00
<b>Total</b>	<b>3,284</b>	<b>0.84</b>	<b>8.00</b>	<b>0.13</b>

<b>RapidScreen</b>	<b>Potential from RS Vehicles (tons/yr)</b>			
	<b>Unique Vehicles</b>	<b>HC</b>	<b>CO</b>	<b>NOx</b>
Enhanced IM240	120,149	32.9	313.5	4.8
Enhanced Idle	4,090	-0.9	-8.5	0.0
Basic Idle	1,424	0.0	0.0	0.0
<b>Total</b>	<b>125,663</b>	<b>31.9</b>	<b>305.0</b>	<b>4.8</b>

<b>Station I/M Tests</b>	<b>Station Reductions (tons/yr)</b>			
	<b>Unique Vehicles</b>	<b>HC</b>	<b>CO</b>	<b>NOx</b>
Enhanced IM240	489,190	507.9	6,723.3	166.3
Enhanced Idle	26,946	140.5	1,265.5	0.0
Basic Idle	52,580	112.4	1,657.2	0.0
<b>Total Actual</b>	<b>568,716</b>	<b>760.8</b>	<b>9,645.9</b>	<b>166.3</b>

<b>Total Potential Reductions</b>	<b>792.7</b>	<b>9,951.0</b>	<b>171.1</b>
<i>RapidScreen Impact</i>	<i>4.0%</i>	<i>3.1%</i>	<i>2.8%</i>
<b>Retained Reductions</b>	<b>96.0%</b>	<b>96.9%</b>	<b>97.2%</b>

Because the program is biennial, these reductions are approximately half of the reductions that would be measured over a full two-year cycle of the program.

The tons of reductions cited here do not relate directly to the total mobile emissions inventory. The reductions cited are for tailpipe emissions and are in terms of the IM240 driving cycle. State Implementation Plan reductions are based on different driving cycles, are subject to many adjustments for speed, road type, temperature, air conditioning loads, etc., and therefore are larger than the IM240 measured reductions.

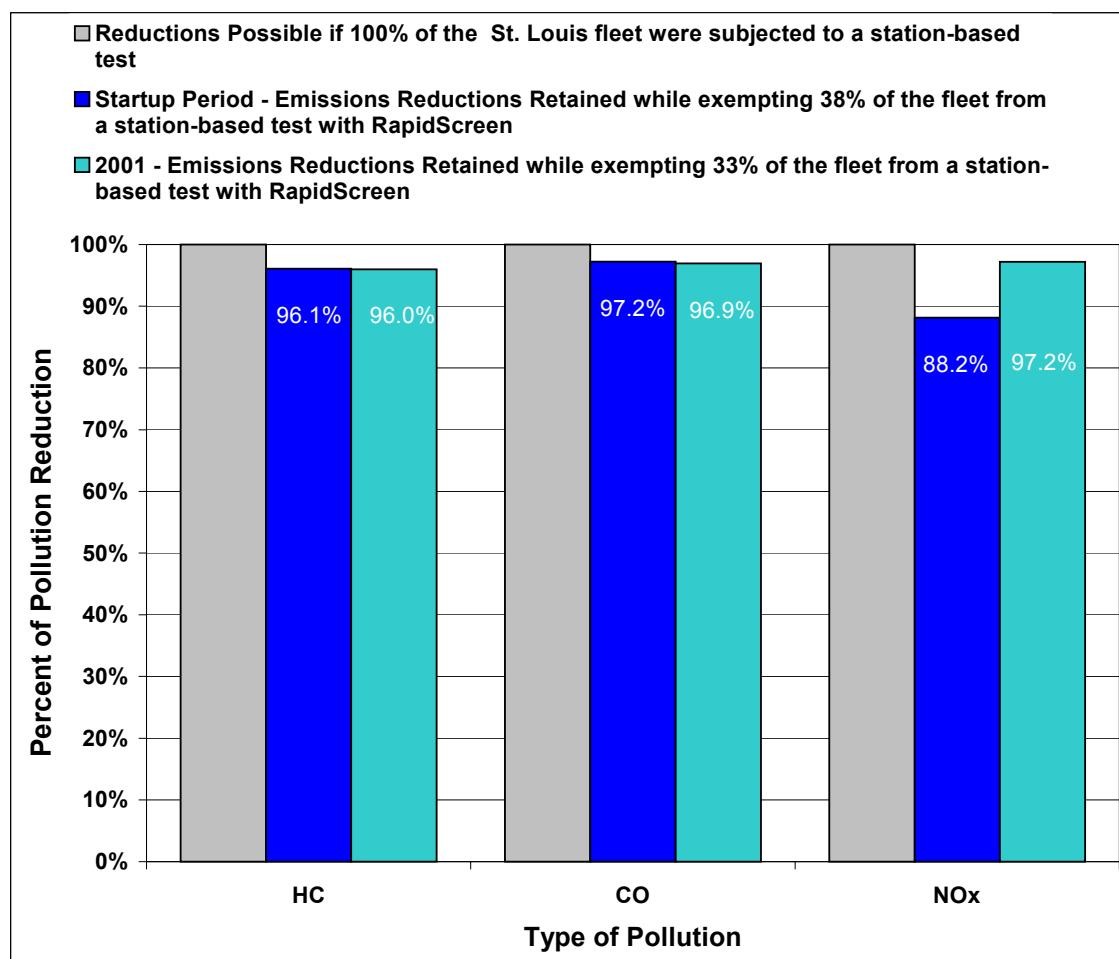
Also not calculated here are the reductions in evaporative emissions resulting from gas cap testing. In Table IV-5, it was estimated the RapidScreen program retains 87% of the potential HC reductions from gas cap testing.

Table VII-7 also shows that, during the period covered by this 2001 RapidScreen Report, 125,663 vehicles were RapidScreened, and 568,716 vehicles received a station test. Therefore, 18% out of the 694,379 unique vehicles considered in this analysis were RapidScreened.

Vehicles less than two years old are statutorily exempt from inspection because the emission reductions that would be obtained by subjecting them to inspection and repair would be extremely small, if any. The vehicles less than two years old are estimated to be 15% of registered vehicles. Given this assumption, the vehicles greater than two years old, which must be inspected via RapidScreen or at a station, make up 85% of registered vehicles. Therefore, 15.3% of the registrations were RapidScreened (18% of Gateway Clean Air Program tests x 85% of vehicles required to be emission tested). The total RapidScreened vehicles make up 33% of registrations (18% exempted from a station test via RapidScreen + 15% exempted from a station test by statute).

Figure VII-1 illustrates the emission reductions retained by the Gateway Clean Air program while exempting 33% of vehicles from inspection<sup>i</sup>.

**Figure VII-1 Air Quality Impact of RapidScreen**

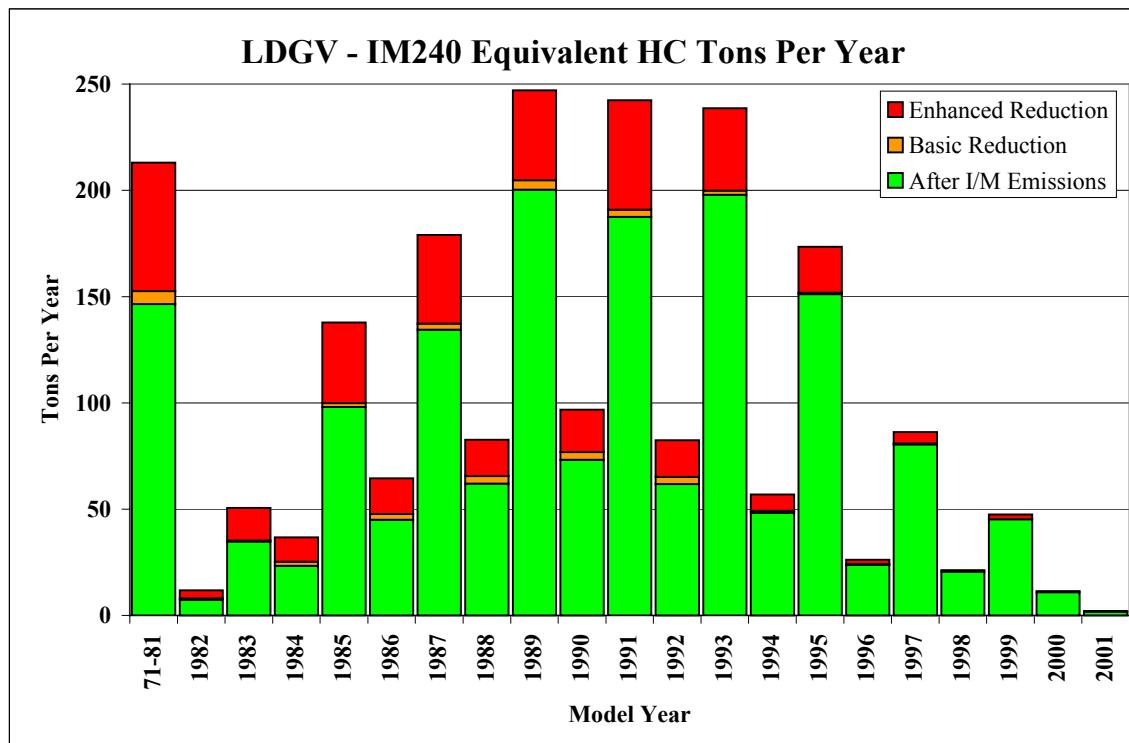


<sup>i</sup> It is assumed that no additional reductions would be obtained by testing vehicles less than two years old.

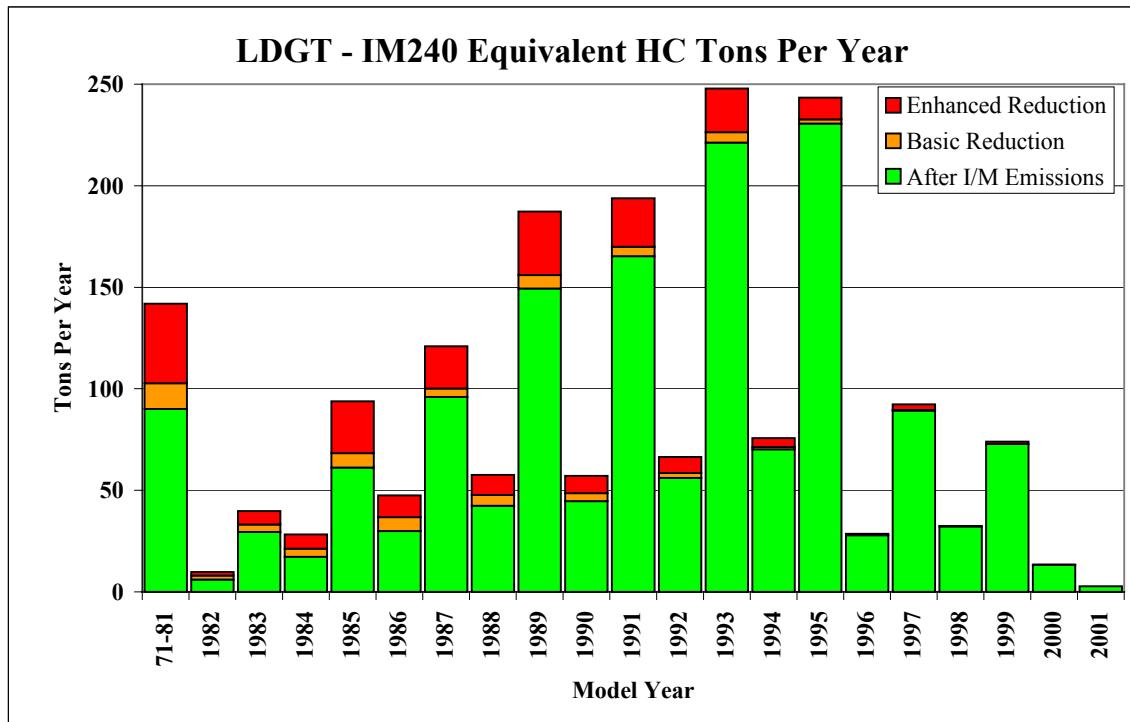
Figures VII-2 and VII-3 show the annual HC inventory and reductions by model year and vehicle type for the vehicles tested in 2001, based on the IM240 driving cycle. In these two charts, the reductions and remaining emissions of all vehicles older than 1981 are included with the reductions and remaining emissions of 1981 vehicles. The biennial testing cycle of the Enhanced area causes the difference between the sizes of the bars for odd model year vehicles vs. even model year vehicles.

These two charts indicate that older vehicles, which are fewer in number and driven fewer miles each year, still contribute a large portion to the HC emissions inventory in the St. Louis moderate ozone nonattainment area.

**Figure VII-2 LDGV Reductions and Remaining Emissions**



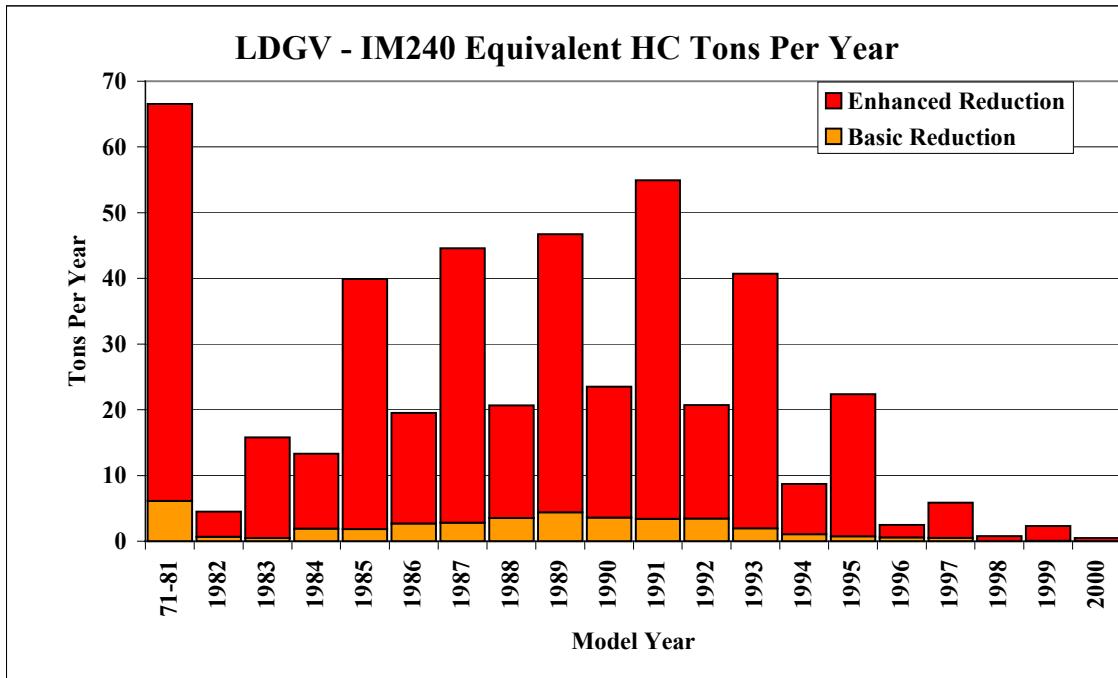
**Figure VII-3 LDGT Reductions and Remaining Emissions**



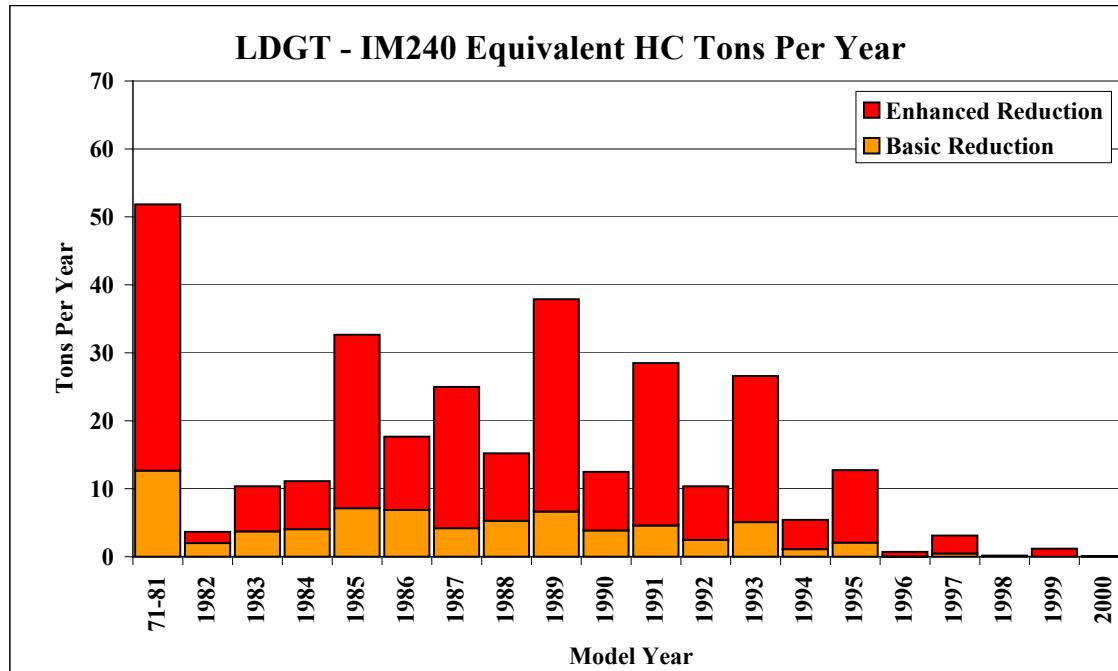
Figures VII-4 through Figures VII-9 illustrate the distribution of the reductions by model year and vehicle type for HC, CO and NOx. In these two charts, the reductions and remaining emissions of all vehicles older than 1981 are included with the reductions and remaining emissions of 1981 vehicles.

IM240 test cutpoints have an impact on the emissions reduced in each model year. For example, in Figure VII-8, the LDGV NOx chart, the impact of the IM240 cutpoint change from 3.0 g/mi for 1989 vehicles to 2.5 g/mi for 1991 vehicles greatly increases the number of tons reduced, even though only 22% more 1991 LDGVs (34,238) than 1989 LDGVs (28,008) were tested during the year.

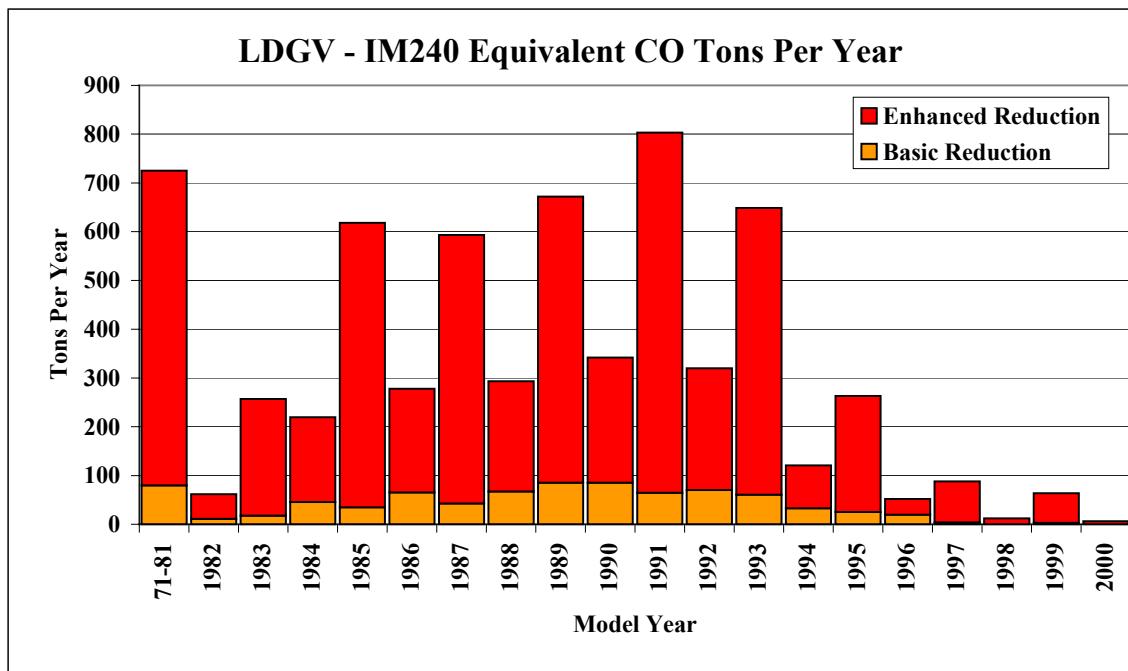
**Figure VII-4 LDGV HC Reductions**



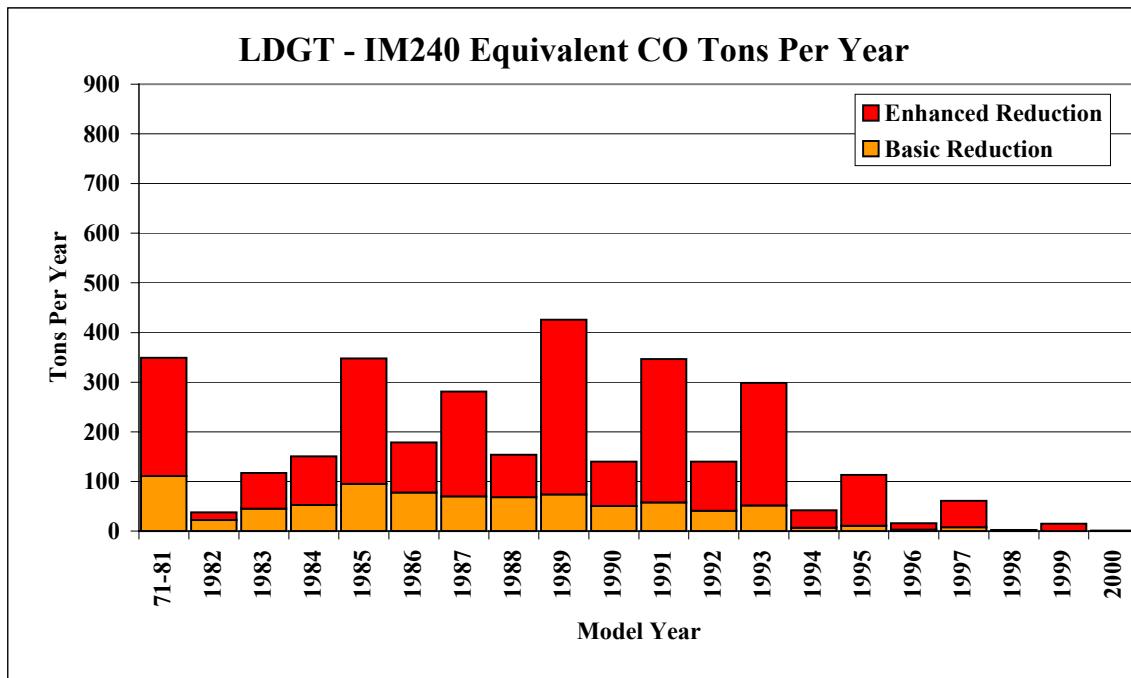
**Figure VII-5 LDGT HC Reductions**



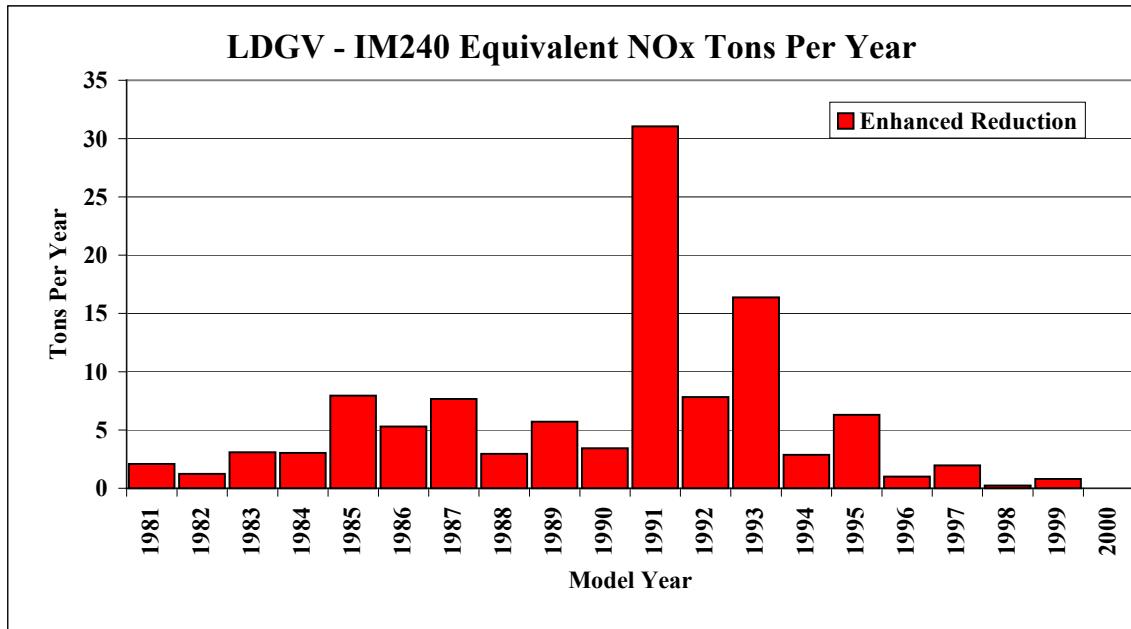
**Figure VII-6 LDGV CO Reductions**



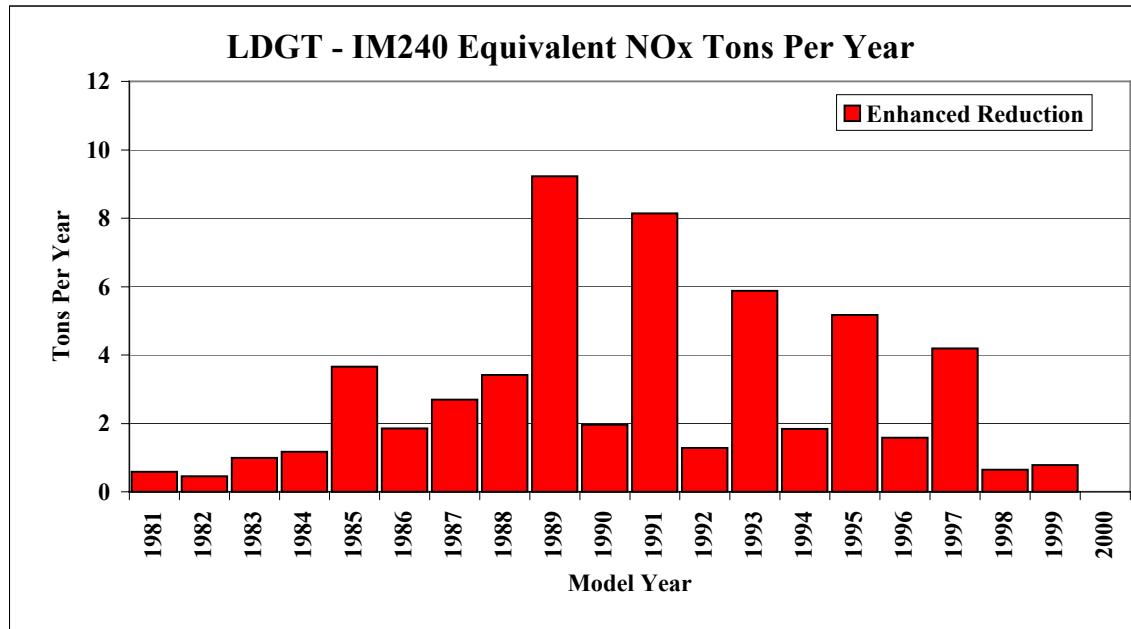
**Figure VII-7 LDGT CO Reductions**



**Figure VII-8 LDGV NOx Reductions**



**Figure VII-9 LDGT NOx Reductions**



## **VIII. Program Modifications and Additional Evaluation**

### **A. Suggestions for Program Modifications**

#### *1. Focus the Quality Control Effort More on the RapidScreen Notices*

Presently, 10% of the tag edited datasets (VDR) and 10% of the vehicle images for RapidScreen qualified vehicles (VMR) are visually checked for a correct match to registered vehicles. The average monthly volume of records verified in the VDR table (23,397) is much greater than the average monthly volume of records verified in the VMR table (830). However, it is the VMR records for the vehicles that are to be sent RapidScreen notices for which accuracy is of paramount importance.

The reported VMR error rate is about 0.4% due to tag edit errors and 1.5% from other causes, including time lags in the registration database. The RapidScreen Startup Report recommended shifting the QC emphasis to verifying the VMR records, as does this 2001 RapidScreen Report. This recommendation is being implemented in 2002.

#### *2. Widen the Geographic Distribution of On-Road Measurements*

In order to obtain measurements on the greatest number of unique vehicles, the on-road effort needs to be more effectively distributed over a wider number of sites that are more equally reflect the total number of potential RapidScreen candidates in each county.

### **B. Suggestions for Additional Evaluation**

#### *1. Comprehensive Program Evaluation*

The RSD data can be used to more fully investigate detailed aspects of program effectiveness, e.g. pre-inspection repairs, repair effectiveness, post-repair deterioration and program compliance such as that described by Wenzel using Arizona remote sensing data<sup>6</sup>.

A limited analysis of the on-road emissions before and after vehicle repair has been included in section V. C., and correlations between on-road measurements and the I/M tests have been developed in section VI. A. As more on-road data is collected, more detailed analysis will be possible and could provide insights into ways of improving Gateway Clean Air Program effectiveness.

#### *2. Evaluation of High Emitter Identification*

It is clear from the emissions deciles of vehicles measured on-road (See section V. B.) that there are considerable excess emissions remaining among a small percentage of older vehicles. These results indicate that vehicle emissions do increase between biennial inspections and, possibly, that vehicle owners choose to pay for short cut repairs that do not last for two years. If these high emitting vehicles were required to come in for an emission inspection between test cycles, the effectiveness of the Gateway Clean Air Program would be improved.

A simulation of the effectiveness of high emitter identification could be undertaken to evaluate alternative identification protocols and the impact of off-cycle emission inspections on program effectiveness.

### ***3. Evaluation of Evaporative Emissions Index***

The existing low emitter index does not incorporate any estimates of evaporative emissions. The gas cap failures are much more randomly distributed across vehicles by model year than are tailpipe emission failures. Nevertheless, it may be worth investigating whether there are any sufficiently high gas cap failure rates for specific make/models, i.e. pattern failures that would make it worth disallowing these make/models from being RapidScreened.

# Appendix A – RapidScreen Coverage

- **A1 – RapidScreen Sites**
- **A2 – RapidScreen Coverage by ZIP Code**
- **A3 – RapidScreen Coverage by Year, Make and Model**

## **Appendix A Notes**

### **Appendix A1**

Although the site references number as high as 91, the actual number of sites used was only 65. Some candidate sites were rejected and use of some sites has been discontinued.

### **Appendix A3**

Use of the LEI method was terminated in November 2000. Twenty-three vehicles redeemed LEI RapidScreen notices in 2001.

## Appendix A1 – RapidScreen Sites Used

<b>Site Ref</b>	<b>Type</b>	<b>Description</b>	<b>Township</b>	<b>Zip Code</b>	<b>Slope Degr</b>	<b>VSP kW/t</b>	<b>Valid Tests</b>
3	Freeway Entrance	Brentwood Rd. SB on to I - 64 W.	Richmond Heights	63117	2.3	13.9	101,546
4	Freeway Entrance	Lindbergh Rd. NB on to I-64 E.	Ladue	63124	0.4	16.8	54,668
5	Freeway Entrance	Jefferson St. on to I - 44 W.	N/A	63104	2.1	17.3	42,758
8	Freeway Entrance	Elm Ave. on to I - 44 E.	Webster Groves	63119	2.3	16.4	12,444
9	Freeway Entrance	Blendon Pl. on to I - 64 W.	Richmond Heights	63117	2.0	13.5	16,124
11	Freeway Entrance	Bates Rd. on to I - 55 N.	N/A	63111	1.6	17.2	22,924
12	Freeway Entrance	Carondolet Blvd. on to I - 55 S.	Wilbur Park	63123	2.9	18.4	64,189
13	Freeway Entrance	Reavis Barracks Rd. on to I - 55 S.	Unincorporated	63123	3.4	19.9	80,981
14	Freeway Entrance	Germana Rd. on to I - 55 N.	N/A	63111	2.3	18.1	19,585
17	Freeway Entrance	East Grand St. onto I 70 W	N/A	63107	1.4	16.7	10,917
18	Freeway Entrance	Airflight Dr./Pear Tree Lane on to I - 70 E.	Edmunson	63145	-0.4	14.5	3,451
19	Freeway Entrance	Bermuda Rd. on to I - 70 W.	Normandy	63121	-0.3	17.5	5,487
21	Freeway Entrance	Jennings Station Rd. N. on to I - 70 W.	Pine Lawn	63120	1.6	16.0	2,154
27	Freeway Entrance	Clarkson Rd./ Olive St. on to Rte. 40/I- Chesterfield 64 E.		63107	0.6	15.2	94,318
28	Freeway Entrance	Ladue Rd. on to I - 270 S.	Creve Coeur	63141	0.1	18.6	76,910
29	Freeway Entrance	Dorsett Rd. on to I - 270 S.	Maryland Heights	63043	1.8	19.6	108,995
32	Freeway Entrance	Rte. 67 S. on to I - 70 W.	Bridgeton	63044	1.8	15.8	23,860
33	Freeway Entrance	Lucas - Hunt N. on to I - 70 E.	Northwoods	63121	-1.1	13.4	15,443
34	Freeway Entrance	Lucas - Hunt S. on to I - 70 E.	Northwoods	63121	-1.6	9.1	14,138
35	Freeway Entrance	Richardson Rd. WB on to I - 55 N.	Arnold	63010	-2.5	10.3	8,587
36	Freeway Entrance	Rte. 141 S. on to I - 55 N.	Arnold	63010	-2.8	7.9	6,669
37	Freeway Entrance	Lindberg/Kirkwood St. on to I - 44 W.	Kirkwood	63126	2.8	20.1	76,382
40	Freeway Entrance	Hanley Rd. S. on to Rte. 40/I-64 W.	Richmond Heights	63117	-1.8	13.6	32,319
41	Freeway Entrance	Hanley Rd. N. on to Rte. 40/I-64 W.	Richmond Heights	63117	-1.8	9.8	50,956
42	Freeway Entrance	Page Rd. on to I - 170 N.	Vinita Park	63114	2.7	15.1	82,621
43	Freeway Entrance	St. Charles Rock on to I - 170 S.	St. John	63114	1.9	17.7	57,963
44	Freeway Entrance	Forest Park Parkway on to I - 170 N.	Clayton	63124	2.0	16.0	78,639
45	Freeway Entrance	Main St. (M & K) on to I - 70 E.	O'Fallon	63366	1.3	18.2	122,521
46	Freeway Entrance	Salt Lick Rd. (Rte. 79) N. on to I - 70 E.	St. Peters		-0.4	17.1	777
47	Freeway Entrance	Cave Springs Rd. on to I - 70 E.	St. Peters	63376	-1.8	15.1	111,420
49	Freeway Entrance	Long Rd. on to Rte. 40/I-64 E.	Chesterfield	63005	0.1	13.2	36,355
50	Freeway Entrance	Chesterfield Rd./Airport Rd. on to Rte. 64 W.	Chesterfield	63005	2.2	13.6	8,538

## Appendix A1 – RapidScreen Sites cont'd

Site Ref Type	Description	Township	Zip Code	Slope Degr	VSP kW/t	Valid Tests
53 Surface	Howdershell/Shackleford Rd. N. of Wiethaupt.	Wedgewood Green	63031	1.3	11.3	38,284
55 Surface	Redman Rd. EB W. of Jerries Rd.	Blackjack	63033	1.7	9.9	10,421
56 Surface	Parker Rd. WB between New & Old Halls Ferry Rd.	Blackjack	63033	3.7	11.2	32,021
57 Freeway Entrance	New Halls Ferry Rd./Dunn Rd. on to I- 270 W.	Blackjack	63033	3.6	18.6	103,215
59 Freeway Entrance	Dunn Rd./New Florissant Rd. on to I- 270 W.	Florissant	63033	2.3	18.3	61,649
62 Surface	Rte. 109 SB S. of Rte. 100.	Wildwood	63040	1.9	11.8	12,272
63 Freeway Entrance	McDonnell Blvd. On to I-270 E.	Hazelwood	63042	-1.0	15.7	25,882
65 Freeway Entrance	Howdershell Rd./McDonnel Blvd. SB on to I-270 W.	Hazelwood	63042	-1.6	16.8	82,289
68 Freeway Entrance	Earth City Expressway NB on to Rte. 370 E.	Bridgeton	63044	-1.0	15.8	11,072
70 Freeway Entrance	Gray Summit Rd. on to I-44 E.	Gray Summit	63069	-2.7	17.9	1,201
71 Freeway Entrance	St. Charles Rock Rd. WB on to Lindberg/67 N.	St. Ann	63074	1.2	15.9	75,930
73 Freeway Entrance	Rte. 47 on to I-44 E.	St. Clair	63077	-1.8	8.4	6,496
74 Surface	Ashby Rd on to westbound Midland Blvd	Overland	63114	-2.0	20.8	1,857
76 Freeway Entrance	Florissant NB on to I-270 E.	Calverton Park	63135	2.3	18.2	38,632
77 Freeway Entrance	Bellefontaine Rd. SB on to I-270 W.	Bellefontaine	63138	2.3	17.9	49,881
79 Surface	Craig Rd. NB @ Debonnaire	Creve Coeur	63146	-0.5	8.7	20,607
80 Surface	McNutt Rd. WB at Commercial Blvd. (Rte. 67)	Herculaneum	63048	0.6	14.0	11,708
81 Freeway Entrance	McNutt Rd. WB on to I - 55 N.	Herculaneum	63048	1.4	16.7	5,585
82 Freeway Entrance	Rte. Z WB on to I - 55 N.	Pevely	63070	2.3	17.2	5,306
85 Freeway Entrance	Kingshighway SB on to I - 44 W.	N/A	63110	0.5	12.3	54,904
86 Freeway Entrance	McKnight Rd. NB (at Delmar Blvd.) on to I - 170 N.	University City	63130	-1.0	7.0	34,211
87 Freeway Entrance	Meramac Bottom Rd. on to I - 55 N.	Fenton	63129	-0.7	19.5	43,505
91 Surface	Green Park Rd. EB 1/2 block E. of Cedar Berry Pl.	Lakeshire	63123	3.7	10.5	7,695
93 Entrance	Airflight Dr./ on to I - 70 W	Edmunson	63145	2.3	17.3	15,647
94 Freeway Entrance	Grand Blvd. on to I - 44 W.	N/A	63110	-0.5	18.0	3,469
95 Freeway Entrance	Rte. 141 onto 40/61West	Town & Country	63017	2.2	16.7	39,739
96 Freeway Entrance	Airport Road onto I-170 South	Berkeley	63134	0.9	17.0	22,606
97 Freeway Entrance	Rte. 94 (1st Capital) onto I-70 West	St. Charles	63301	-0.1	16.7	14,014
98 Freeway Entrance	Rte. 94 onto Hwy. 370 West	St. Charles	63301	2.0	19.4	11,637
99 Freeway Entrance	Elm Street onto Hwy. 370 East	Unincorporated	63301	1.7	18.5	9,420
100 Freeway Entrance	Zumbelh Rd. onto I-70 West	St. Charles	63301	-1.4	18.2	11,842
101 Freeway Entrance	Bryan Road onto I-70 East	O' Fallon	63366	-1.4	15.5	23,447
102 Freeway Entrance	Lake St. Louis Blvd. Onto I-70 East	Lake St. Louis	63367	-1.9	15.2	7,564
Total	65					2,237,101

## Appendix A2 – RapidScreen Coverage by ZIP Code

Zip Code	Description	RapidScreen			Total RS	Station Tests		Total	% RS
		RSD	Hybrid	LEI		27	29		
63001			2		2				7%
63005	CHESTERFIELD	1,296	544	1	1,841	3,645	5,486	34%	
63006		30	11		41	108	149	28%	
63010	ARNOLD	1,529	1,028		2,557	10,465	13,022	20%	
63011	MANCHESTER	1,729	1,139		2,868	11,228	14,096	20%	
63012	BARNHART	243	292		535	3,164	3,699	14%	
63013	BEAUFORT	7	6		13	1,045	1,058	1%	
63014	BERGER	4	3		7	444	451	2%	
63015	CATAWISSA	25	26		51	1,036	1,087	5%	
63016	CEDAR HILL	102	131		233	2,868	3,101	8%	
63017	TOWN AND COUNTRY	2,276	1,339	1	3,616	10,620	14,236	25%	
63019	CRYSTAL CITY	55	78		133	1,294	1,427	9%	
63020	DE SOTO	281	415		696	6,397	7,093	10%	
63021	BALLWIN	1,859	1,544	1	3,404	15,697	19,101	18%	
63022		11	8		19	71	90	21%	
63023	DITTMER	51	67		118	1,739	1,857	6%	
63025	CRESCENT	328	317		645	3,380	4,025	16%	
63026	FENTON	1,182	1,127	1	2,310	13,360	15,670	15%	
63028	FESTUS	296	418	1	715	7,636	8,351	9%	
63030	FLETCHER		4		4	45	49	8%	
63031	FLORISSANT	3,797	1,607	2	5,406	12,692	18,098	30%	
63032		31	14		45	107	152	30%	
63033	FLORISSANT	3,402	1,368		4,770	11,283	16,053	30%	
63034	FLORISSANT	1,507	602	1	2,110	4,219	6,329	33%	
63037	GERALD	4	12		16	1,762	1,778	1%	
63038	GLENCOE	383	226		609	1,598	2,207	28%	
63039	GRAY SUMMIT	12	29		41	644	685	6%	
63040	GROVER	478	215		693	1,697	2,390	29%	
63041		5	4		9	206	215	4%	
63042	HAZELWOOD	1,448	609		2,057	5,249	7,306	28%	
63043	MARYLAND HEIGHTS	1,871	737		2,608	6,205	8,813	30%	
63044	BRIDGETON	800	496		1,296	4,189	5,485	24%	
63045	BRIDGETON	45	25		70	174	244	29%	
63047		3	1		4	73	77	5%	
63048	HERCULANEUM	68	75		143	914	1,057	14%	
63049	HIGH RIDGE	258	280		538	5,017	5,555	10%	
63050	HILLSBORO	259	282		541	4,645	5,186	10%	
63051	HOUSE SPRINGS	183	224		407	4,535	4,942	8%	
63052	ANTONIA	622	556		1,178	6,931	8,109	15%	
63053		1	4		5	54	59	8%	
63055	LABADIE	28	44		72	1,202	1,274	6%	
63056	LESLIE	3	7		10	1,160	1,170	1%	
63057		2			2	14	16	13%	
63060	LONEDELL	12	21		33	1,313	1,346	2%	
63061	LUEBBERING		2		2	154	156	1%	
63065		2	6		8	54	62	13%	
63066		1	4		5	73	78	6%	
63068	NEW HAVEN	10	19		29	2,608	2,637	1%	
63069	PACIFIC	246	302		548	6,151	6,699	8%	
63070	PEVELY	122	145		267	1,866	2,133	13%	
63072	ROBERTSVILLE	24	38		62	1,747	1,809	3%	

## Appendix A2 – RapidScreen Coverage by ZIP Code cont'd

<b>Zip Code</b>	<b>Description</b>	<b>RapidScreen RSD</b>	<b>Hybrid</b>	<b>LEI</b>	<b>Total RS</b>	<b>Station Tests</b>	<b>Total</b>	<b>% RS</b>
63074	SAINT ANN	633	393		1,026	4,671	5,697	18%
63077	SAINT CLAIR	45	75		120	6,106	6,226	2%
63080	SULLIVAN	29	40		69	5,099	5,168	1%
63084	UNION	49	66		115	8,187	8,302	1%
63087		2	2		4	82	86	5%
63088	VALLEY PARK	214	168		382	2,364	2,746	14%
63089	VILLA RIDGE	44	96		140	3,211	3,351	4%
63090	WASHINGTON	69	131		200	11,823	12,023	2%
63101	SAINT LOUIS	49	36		85	551	636	13%
63102	SAINT LOUIS	34	17		51	294	345	15%
63103	SAINT LOUIS	94	49		143	945	1,088	13%
63104	SAINT LOUIS	317	250		567	3,907	4,474	13%
63105	CLAYTON	884	384		1,268	3,320	4,588	28%
63106	SAINT LOUIS	72	67		139	1,413	1,552	9%
63107	SAINT LOUIS	128	110	1	239	2,451	2,690	9%
63108	SAINT LOUIS	408	277		685	3,685	4,370	16%
63109	SAINT LOUIS	954	795		1,749	8,527	10,276	17%
63110	SAINT LOUIS	406	276	1	683	4,299	4,982	14%
63111	SAINT LOUIS	392	320		712	4,789	5,501	13%
63112	SAINT LOUIS	334	255		589	3,937	4,526	13%
63113	SAINT LOUIS	138	116		254	2,761	3,015	8%
63114	OVERLAND	1,344	914	1	2,259	11,025	13,284	17%
63115	SAINT LOUIS	305	263	1	569	4,758	5,327	11%
63116	SAINT LOUIS	972	791		1,763	12,773	14,536	12%
63117	RICHMOND HEIGHTS	454	267		721	2,869	3,590	20%
63118	SAINT LOUIS	251	227	1	479	5,202	5,681	8%
63119	WEBSTER GROVES	1,357	1,085		2,442	9,876	12,318	20%
63120	SAINT LOUIS	191	129		320	2,370	2,690	12%
63121	NORMANDY	1,065	609	1	1,675	7,097	8,772	19%
63122	KIRKWOOD	1,537	1,251	1	2,789	11,358	14,147	20%
63123	AFFTON	2,138	1,657		3,795	15,078	18,873	20%
63124	LADUE	1,007	518	1	1,526	4,007	5,533	28%
63125	LEMAY	1,084	960		2,044	9,936	11,980	17%
63126	SAPPINGTON	448	500		948	5,058	6,006	16%
63127	SAPPINGTON	177	149		326	1,550	1,876	17%
63128	SAPPINGTON	1,131	1,003		2,134	8,936	11,070	19%
63129	SOUTH COUNTY	1,961	1,612		3,573	15,221	18,794	19%
63130	UNIVERSITY CITY	1,231	755	1	1,987	8,103	10,090	20%
63131	DES PERES	889	642		1,531	4,888	6,419	24%
63132	OLIVETTE	757	465		1,222	4,176	5,398	23%
63133	SAINT LOUIS	232	138		370	2,357	2,727	14%
63134	BERKELEY	572	315		887	4,133	5,020	18%
63135	FERGUSON	1,131	581		1,712	5,747	7,459	23%
63136	JENNINGS	2,055	1,040		3,095	11,982	15,077	21%
63137	NORTH COUNTY	957	567		1,524	4,881	6,405	24%
63138	NORTH COUNTY	1,240	463	1	1,704	4,816	6,520	26%
63139	SAINT LOUIS	711	569		1,280	7,126	8,406	15%
63140	BERKELEY	14	4		18	87	105	17%
63141	CREVE COEUR	1,391	695		2,086	5,167	7,253	29%
63143	MAPLEWOOD	417	285		702	3,688	4,390	16%
63144	BRENTWOOD	638	296		934	2,897	3,831	24%
63145		12	4		16	64	80	20%

## Appendix A2 – RapidScreen Coverage by ZIP Code cont'd

Zip Code	Description	RapidScreen			Total RS	Station		% RS
		RSD	Hybrid	LEI		Tests	Total	
63146	WEST COUNTY	1,699	1,073		2,772	8,041	10,813	26%
63147	SAINT LOUIS	317	225		542	2,846	3,388	16%
63301	SAINT CHARLES	1,398	1,319		2,717	13,798	16,515	16%
63302		17	18		35	221	256	14%
63303	SAINT CHARLES	1,522	1,208	1	2,731	12,296	15,027	18%
63304	SAINT CHARLES	1,218	1,087		2,305	11,062	13,367	17%
63332	AUGUSTA	16	19		35	405	440	8%
63338		3	3		6	38	44	14%
63341	DEFIANCE	103	98		201	1,063	1,264	16%
63346		2	3		5	20	25	20%
63348	FORISTELL	69	81		150	1,232	1,382	11%
63365		11	10		21	121	142	15%
63366	SAINT PAUL	3,323	1,839	1	5,163	15,848	21,011	25%
63367	LAKE SAINT LOUIS	347	293	1	641	3,265	3,906	16%
63373	PORTAGE DES SIOU	20	25		45	238	283	16%
63376	SAINT PETERS	3,126	2,047	1	5,174	19,028	24,202	21%
63385	WENTZVILLE	323	316	1	640	4,639	5,279	12%
63386	WEST ALTON	15	15		30	211	241	12%
Total		73,424	48,807	23	122,254	556,798	679,052	18%

**Appendix A3**  
**Vehicles RapidScreened**

Year	Make	Model	RSD	Hybrid	LEI	Total Rapid Screen	Total Vehicles Tested	Total Rapid Screen %
2000	ACUR	3.2 TL		3	0	0	3	38 8%
2000	ACUR	3.5 RL		2	0	0	2	9 22%
2000	AUDI	A4		2	0	0	2	9 22%
2000	AUDI	A6		2	0	0	2	22 9%
2000	AUDI	QUATTRO		1	0	0	1	5 20%
2000	BMW	323CI		1	0	0	1	10 10%
2000	BMW	323I		8	0	0	8	46 17%
2000	BMW	328I		1	0	0	1	17 6%
2000	BMW	528I		6	0	0	6	27 22%
2000	BMW	740I		1	0	0	1	12 8%
2000	BMW	MRD		1	0	0	1	9 11%
2000	BMW	Z3		3	0	0	3	16 19%
2000	BUIC	CENTURY		9	0	0	9	333 3%
2000	BUIC	LESABRE		12	0	0	12	143 8%
2000	BUIC	PARK AVENUE		2	0	0	2	48 4%
2000	BUIC	REGAL		3	0	0	3	105 3%
2000	CADI	DEVILLE		4	0	0	4	155 3%
2000	CADI	ELDORADO		1	0	0	1	16 6%
2000	CADI	SEVILLE		4	0	0	4	33 12%
2000	CHEV	ASTRO VAN		3	0	0	3	237 1%
2000	CHEV	BLAZER		13	0	0	13	558 2%
2000	CHEV	CAMARO		1	0	0	1	128 1%
2000	CHEV	CAVALIER		6	0	0	6	753 1%
2000	CHEV	CORVETTE		1	0	0	1	84 1%
2000	CHEV	EXPRESS		3	0	0	3	32 9%
2000	CHEV	G30		1	0	0	1	1 100%
2000	CHEV	IMPALA		19	0	0	19	320 6%
2000	CHEV	K1500		2	0	0	2	64 3%
2000	CHEV	LUMINA		1	0	0	1	252 0%
2000	CHEV	MALIBU		11	0	0	11	642 2%
2000	CHEV	METRO		1	0	0	1	91 1%
2000	CHEV	MONTE CARLO		1	0	0	1	141 1%
2000	CHEV	PRIZM		1	0	0	1	119 1%
2000	CHEV	S10		4	0	0	4	294 1%
2000	CHEV	SILVERADO		21	0	0	21	557 4%
2000	CHEV	SUBURBAN		4	0	0	4	88 5%
2000	CHEV	VENTURE		3	0	0	3	137 2%
2000	CHRY	300M		3	0	0	3	68 4%
2000	CHRY	CHRYSLER 300		1	0	0	1	5 20%
2000	CHRY	CONCORDE		4	0	0	4	70 6%
2000	CHRY	LHS		3	0	0	3	40 8%
2000	CHRY	SEBRING		4	0	0	4	298 1%
2000	CHRY	TOWN & COUNTRY		9	0	0	9	128 7%
2000	DAEW	LEGANZA		2	0	0	2	30 7%
2000	DODG	CARAVAN		33	0	0	33	531 6%
2000	DODG	DAKOTA		5	0	0	5	288 2%
2000	DODG	DURANGO		8	0	0	8	178 4%
2000	DODG	INTREPID		11	0	0	11	410 3%
2000	DODG	NEON		4	0	0	4	328 1%
2000	DODG	RAM 1500		7	0	0	7	164 4%

**Appendix A3**  
**Vehicles RapidScreened**

Year	Make	Model	RSD	Hybrid	LEI	Total Rapid Screen	Total Vehicles Tested	Total Rapid Screen %
2000	DODG	RAM 2500	1	0	0	1	2	50%
2000	DODG	RAM VAN	2	0	0	2	14	14%
2000	DODG	STRATUS	2	0	0	2	387	1%
2000	FORD		1	0	0	1	2	50%
2000	FORD	CONTOUR	1	0	0	1	341	0%
2000	FORD	CROWN VICTORIA	2	0	0	2	48	4%
2000	FORD	ECONOLINE	5	0	0	5	82	6%
2000	FORD	ESCORT	5	0	0	5	353	1%
2000	FORD	EXCURSION	1	0	0	1	6	17%
2000	FORD	EXPEDITION	9	0	0	9	213	4%
2000	FORD	EXPLORER	24	0	0	24	1000	2%
2000	FORD	F150	17	0	0	17	440	4%
2000	FORD	F250	2	0	0	2	3	67%
2000	FORD	FOCUS	13	0	0	13	454	3%
2000	FORD	MUSTANG	8	0	0	8	367	2%
2000	FORD	RANGER	7	0	0	7	348	2%
2000	FORD	TAURUS	7	0	0	7	1113	1%
2000	FORD	WINDSTAR	17	0	0	17	441	4%
2000	GMC	JIMMY	2	0	0	2	147	1%
2000	GMC	SAFARI	5	0	0	5	75	7%
2000	GMC	SAVANA	2	0	0	2	27	7%
2000	GMC	SIERRA	3	0	0	3	120	3%
2000	GMC	SONOMA	2	0	0	2	75	3%
2000	GMC	YUKON	7	0	0	7	89	8%
2000	HOND	ACCORD	19	0	0	19	200	10%
2000	HOND	CIVIC	13	0	0	13	191	7%
2000	HOND	CR-V	4	0	0	4	61	7%
2000	HOND	ODYSSEY	8	0	0	8	46	17%
2000	HYUN	ELANTRA	4	0	0	4	201	2%
2000	HYUN	SONATA	3	0	0	3	269	1%
2000	INFI	G20	2	0	0	2	15	13%
2000	INFI	I30	4	0	0	4	35	11%
2000	INFI	QX4	6	0	0	6	41	15%
2000	ISU	RODEO	1	0	0	1	39	3%
2000	ISU	TROOPER	1	0	0	1	13	8%
2000	ISUZU	RODEO	2	0	0	2	4	50%
2000	JAGU	S-TYPE	4	0	0	4	46	9%
2000	JAGU	XJ8	1	0	0	1	10	10%
2000	JEEP	CHEROKEE	15	0	0	15	484	3%
2000	KIA	SEPHIA	3	0	0	3	76	4%
2000	KIA	SPORTAGE	1	0	0	1	127	1%
2000	LEXS	ES 300	3	0	0	3	18	17%
2000	LEXS	LS 400	4	0	0	4	6	67%
2000	LEXS	RX 300	3	0	0	3	40	8%
2000	LINC	LS	4	0	0	4	101	4%
2000	LINC	TOWN CAR	9	0	0	9	194	5%
2000	LNDR	DISCOVERY	2	0	0	2	18	11%
2000	LNDR	RANGE ROVER	1	0	0	1	9	11%
2000	MAZD	626	5	0	0	5	387	1%
2000	MAZD	MILLENNIA	3	0	0	3	11	27%

**Appendix A3**  
**Vehicles RapidScreened**

<b>Year</b>	<b>Make</b>	<b>Model</b>	<b>RSD</b>	<b>Hybrid</b>	<b>LEI</b>	<b>Total Rapid Screen</b>		<b>Total Vehicles Tested</b>	<b>Rapid Screen %</b>
						<b>Total</b>	<b>Rapid Screen</b>		
2000	MAZD	MPV WAGON	2	0	0	2	37	5%	
2000	MAZD	MX5 MIATA	2	0	0	2	22	9%	
2000	MAZD	PROTEGE	9	0	0	9	159	6%	
2000	MERC	COUGAR	2	0	0	2	77	3%	
2000	MERC	GRAND MARQUIS	7	0	0	7	276	3%	
2000	MERC	MOUNTAINEER	4	0	0	4	80	5%	
2000	MERC	MYSTIQUE	1	0	0	1	156	1%	
2000	MERC	SABLE	3	0	0	3	297	1%	
2000	MERC	VILLAGER	2	0	0	2	26	8%	
2000	MERZ	230	1	0	0	1	26	4%	
2000	MERZ	500	2	0	0	2	24	8%	
2000	MERZ	CLK320	2	0	0	2	10	20%	
2000	MERZ	CLK430	1	0	0	1	12	8%	
2000	MERZ	E430	1	0	0	1	6	17%	
2000	MERZ	ML320	3	0	0	3	24	13%	
2000	MERZ	S43	2	0	0	2	16	13%	
2000	MITS	ECLIPSE	5	0	0	5	91	5%	
2000	MITS	GALANT	10	0	0	10	274	4%	
2000	MITS	MIRAGE	2	0	0	2	231	1%	
2000	MITS	MONTERO	2	0	0	2	143	1%	
2000	NISS	ALTIMA	8	0	0	8	161	5%	
2000	NISS	FRONTIER	8	0	0	8	55	15%	
2000	NISS	MAXIMA	15	0	0	15	285	5%	
2000	NISS	PATHFINDER	5	0	0	5	32	16%	
2000	NISS	XTERRA	4	0	0	4	76	5%	
2000	OLDS	ALERO	2	0	0	2	561	0%	
2000	OLDS	BRAVADA	3	0	0	3	103	3%	
2000	OLDS	INTRIGUE	3	0	0	3	312	1%	
2000	OLDS	SILHOUETTE	5	0	0	5	82	6%	
2000	PLYM	BREEZE	1	0	0	1	44	2%	
2000	PLYM	GRAND VOYAGER	1	0	0	1	4	25%	
2000	PLYM	NEON	4	0	0	4	157	3%	
2000	PLYM	VOYAGER	1	0	0	1	44	2%	
2000	PONT	BONNEVILLE	6	0	0	6	90	7%	
2000	PONT	FIREBIRD	2	0	0	2	74	3%	
2000	PONT	GRAND AM	4	0	0	4	759	1%	
2000	PONT	GRAND PRIX	12	0	0	12	444	3%	
2000	PONT	MONTANA	1	0	0	1	80	1%	
2000	PONT	SUNFIRE	2	0	0	2	295	1%	
2000	SAA	9/E	1	0	0	1	3	33%	
2000	STRN	LS	1	0	0	1	13	8%	
2000	STRN	LS1	2	0	0	2	112	2%	
2000	STRN	LS2	2	0	0	2	46	4%	
2000	STRN	SL	5	0	0	5	164	3%	
2000	STRN	SW	1	0	0	1	9	11%	
2000	SUBA	LEGACY	4	0	0	4	48	8%	
2000	SUZI	GRAND VITARA	1	0	0	1	108	1%	
2000	TOYT	4RUNNER	4	0	0	4	73	5%	
2000	TOYT	AVALON	5	0	0	5	48	10%	
2000	TOYT	CAMRY	27	0	0	27	566	5%	

**Appendix A3**  
**Vehicles RapidScreened**

Year	Make	Model	RSD	Hybrid	LEI	Total Rapid Screen	Total Vehicles Tested	Total Rapid Screen %
2000	TOYT	CELICA	1	0	0	1	83	1%
2000	TOYT	COROLLA	6	0	0	6	292	2%
2000	TOYT	LAND CRUISER	1	0	0	1	13	8%
2000	TOYT	SIENNA	6	0	0	6	101	6%
2000	TOYT	TACOMA	1	0	0	1	42	2%
2000	TOYT	TUNDRA	1	0	0	1	42	2%
2000	VOLK	BEETLE	1	0	0	1	59	2%
2000	VOLK	CABRIO	1	0	0	1	46	2%
2000	VOLK	GOLF	2	0	0	2	12	17%
2000	VOLK	JETTA	2	0	0	2	112	2%
2000	VOLK	PASSAT	1	0	0	1	39	3%
2000	VOLV	S70	1	0	0	1	5	20%
2000	VOLV	S80	1	0	0	1	32	3%
1999	ACUR		3	1	0	4	5	80%
1999	ACUR	2.5TL	4	0	0	4	26	15%
1999	ACUR	3.0 CL	43	0	0	43	154	28%
1999	ACUR	3.2 TL	112	0	0	112	457	25%
1999	ACUR	3.5 RL	18	3	0	21	103	20%
1999	ACUR	INTEGRA	22	15	0	37	132	28%
1999	ACUR	SLX	2	0	0	2	7	29%
1999	AUDI	A4	41	9	0	50	180	28%
1999	AUDI	A6	10	0	0	10	46	22%
1999	AUDI	A8	2	0	0	2	10	20%
1999	AUDI	QUATTRO	31	16	0	47	121	39%
1999	BMW		2	0	0	2	4	50%
1999	BMW	323I	60	27	0	87	246	35%
1999	BMW	323IC	14	0	0	14	58	24%
1999	BMW	323IS	6	0	0	6	31	19%
1999	BMW	328I	42	18	0	60	171	35%
1999	BMW	525I	3	0	0	3	3	100%
1999	BMW	528I	58	0	0	58	221	26%
1999	BMW	540I	11	0	0	11	51	22%
1999	BMW	740I	19	0	0	19	71	27%
1999	BMW	M3	8	0	0	8	45	18%
1999	BMW	MCP	1	0	0	1	6	17%
1999	BMW	MRD	2	0	0	2	11	18%
1999	BMW	Z3	18	0	0	18	89	20%
1999	BUIC	CENTURY	234	141	0	375	1291	29%
1999	BUIC	LESABRE	112	78	0	190	701	27%
1999	BUIC	PARK AVENUE	75	54	0	129	371	35%
1999	BUIC	REGAL	120	74	0	194	551	35%
1999	BUIC	RIVIERA	3	0	0	3	9	33%
1999	CADI		1	0	0	1	2	50%
1999	CADI	CATERA	8	0	0	8	106	8%
1999	CADI	CMRCL CHASSIS	2	0	0	2	8	25%
1999	CADI	DEVILLE	94	65	0	159	678	23%
1999	CADI	ELDORADO	27	10	0	37	108	34%
1999	CADI	ESC	22	0	0	22	132	17%
1999	CADI	SEVILLE	48	30	0	78	283	28%
1999	CHEV		9	1	0	10	18	56%

**Appendix A3**  
**Vehicles RapidScreened**

<b>Year</b>	<b>Make</b>	<b>Model</b>	<b>RSD</b>	<b>Hybrid</b>	<b>LEI</b>	<b>Total Rapid Screen</b>	<b>Total Vehicles Tested</b>	<b>Rapid Screen %</b>
1999	CHEV	5000 W5R042	3	0	0	3	3	100%
1999	CHEV	ASTRO VAN	200	85	0	285	721	40%
1999	CHEV	BLAZER	335	179	0	514	1684	31%
1999	CHEV	C1500	30	6	0	36	115	31%
1999	CHEV	C20	2	0	0	2	2	100%
1999	CHEV	C2500	10	0	0	10	19	53%
1999	CHEV	C3500	3	0	0	3	3	100%
1999	CHEV	CAMARO	44	21	0	65	376	17%
1999	CHEV	CAVALIER	483	267	0	750	2861	26%
1999	CHEV	CORVETTE	20	15	0	35	266	13%
1999	CHEV	EXPRESS	48	0	0	48	201	24%
1999	CHEV	G10	5	0	0	5	5	100%
1999	CHEV	G20	9	0	0	9	9	100%
1999	CHEV	G30	30	0	0	30	31	97%
1999	CHEV	GEO PRIZM	2	0	0	2	2	100%
1999	CHEV	GEO TRACKER	17	0	0	17	251	7%
1999	CHEV	K1500	217	114	0	331	1190	28%
1999	CHEV	K2500	13	0	0	13	20	65%
1999	CHEV	K3500	4	0	0	4	4	100%
1999	CHEV	LUMINA	302	178	0	480	1459	33%
1999	CHEV	MALIBU	496	187	0	683	2327	29%
1999	CHEV	METRO	20	2	0	22	197	11%
1999	CHEV	MONTE CARLO	168	88	0	256	783	33%
1999	CHEV	PRIZM	68	51	0	119	401	30%
1999	CHEV	S10	254	104	0	358	1447	25%
1999	CHEV	SILVERADO	469	123	0	592	2208	27%
1999	CHEV	SUBURBAN	275	101	0	376	1101	34%
1999	CHEV	VENTURE	173	89	0	262	807	32%
1999	CHRY	300M	155	96	0	251	742	34%
1999	CHRY	CIRRUS	70	40	0	110	334	33%
1999	CHRY	CONCORDE	134	47	0	181	584	31%
1999	CHRY	INTREPID	1	0	0	1	5	20%
1999	CHRY	LHS	86	44	0	130	362	36%
1999	CHRY	SEBRING	159	100	0	259	786	33%
1999	CHRY	TOWN & COUNTRY	155	67	0	222	601	37%
1999	DAEW		1	0	0	1	2	50%
1999	DAEW	LANOS	2	0	0	2	15	13%
1999	DAEW	LEGANZA	15	0	0	15	42	36%
1999	DAEW	NUBIRA	7	0	0	7	19	37%
1999	DODG		4	1	0	5	10	50%
1999	DODG	AVENGER	48	30	0	78	292	27%
1999	DODG	B150	1	0	0	1	1	100%
1999	DODG	B350	2	0	0	2	2	100%
1999	DODG	CARAVAN	774	322	0	1096	3012	36%
1999	DODG	DAKOTA	180	126	0	306	1279	24%
1999	DODG	DURANGO	361	190	0	551	1527	36%
1999	DODG	INTREPID	296	156	0	452	1389	33%
1999	DODG	NEON	142	65	0	207	879	24%
1999	DODG	RAM 1500	303	158	0	461	1697	27%
1999	DODG	RAM 2500	13	0	0	13	44	30%

**Appendix A3**  
**Vehicles RapidScreened**

<b>Year</b>	<b>Make</b>	<b>Model</b>	<b>RSD</b>	<b>Hybrid</b>	<b>LEI</b>	<b>Total Rapid Screen</b>		<b>Total Vehicles Tested</b>	<b>Rapid Screen %</b>
						<b>Total</b>	<b>Rapid Screen</b>		
1999	DODG	RAM VAN	61	30	0	91	232	39%	
1999	DODG	RAM WAGON	4	2	0	6	34	18%	
1999	DODG	STRATUS	210	127	0	337	1036	33%	
1999	EGIL	PREMIER	4	2	0	6	6	100%	
1999	FORD		17	1	0	18	23	78%	
1999	FORD	AEROSTAR	6	1	0	7	8	88%	
1999	FORD	CLUB WAGON	3	0	0	3	3	100%	
1999	FORD	CONTOUR	171	101	0	272	1318	21%	
1999	FORD	CROWN VICTORIA	63	0	0	63	685	9%	
1999	FORD	ECONOLINE	311	0	0	311	874	36%	
1999	FORD	ESCORT	567	354	0	921	3512	26%	
1999	FORD	EXPEDITION	362	147	0	509	1402	36%	
1999	FORD	EXPLORER	915	360	0	1275	3976	32%	
1999	FORD	F150	700	222	0	922	3057	30%	
1999	FORD	F250	88	4	0	92	188	49%	
1999	FORD	F350	9	0	0	9	12	75%	
1999	FORD	MUSTANG	166	107	0	273	1042	26%	
1999	FORD	RANGER	426	255	0	681	2766	25%	
1999	FORD	TAURUS	792	502	0	1294	4510	29%	
1999	FORD	WINDSTAR	453	211	0	664	2014	33%	
1999	GEO	TRACKER	1	0	0	1	1	100%	
1999	GMC		11	0	0	11	15	73%	
1999	GMC	1500	1	2	0	3	4	75%	
1999	GMC	C1500	12	0	0	12	58	21%	
1999	GMC	DENALI	45	16	0	61	160	38%	
1999	GMC	ENVOY	7	8	0	15	59	25%	
1999	GMC	JIMMY	122	55	0	177	539	33%	
1999	GMC	K1500	130	64	0	194	582	33%	
1999	GMC	K2500	3	0	0	3	11	27%	
1999	GMC	SAFARI	91	60	0	151	454	33%	
1999	GMC	SAVANA	168	0	0	168	720	23%	
1999	GMC	SIERRA	145	44	0	189	734	26%	
1999	GMC	SONOMA	83	25	0	108	433	25%	
1999	GMC	YUKON	98	47	0	145	476	30%	
1999	HOND		2	2	0	4	7	57%	
1999	HOND	ACCORD	674	401	0	1075	2768	39%	
1999	HOND	CIVIC	293	108	0	401	1712	23%	
1999	HOND	CR-V	204	109	0	313	817	38%	
1999	HOND	ODYSSEY	112	0	0	112	422	27%	
1999	HOND	PASSPORT	30	19	0	49	152	32%	
1999	HOND	PRELUDE	8	0	0	8	75	11%	
1999	HYUN	ACCENT	29	21	0	50	162	31%	
1999	HYUN	ELANTRA	71	0	0	71	380	19%	
1999	HYUN	SONATA	49	0	0	49	246	20%	
1999	HYUN	TIBURON	12	0	0	12	70	17%	
1999	INFI	G20	74	0	0	74	301	25%	
1999	INFI	I30	83	0	0	83	311	27%	
1999	INFI	Q45	17	0	0	17	56	30%	
1999	INFI	QX4	127	50	0	177	397	45%	
1999	ISU	AMIGO	29	12	0	41	132	31%	

**Appendix A3**  
**Vehicles RapidScreened**

<b>Year</b>	<b>Make</b>	<b>Model</b>	<b>RSD</b>	<b>Hybrid</b>	<b>LEI</b>	<b>Total</b>		<b>Total Vehicles Tested</b>	<b>Rapid Screen %</b>
						<b>Total</b>	<b>Rapid Screen</b>		
1999	ISU	RODEO	104	51	0	155		450	34%
1999	ISU	TROOPER	35	23	0	58		175	33%
1999	ISU	VEHICROSS	3	0	0	3		18	17%
1999	JAGU		3	0	0	3		4	75%
1999	JAGU	VDP	2	0	0	2		19	11%
1999	JAGU	XJ8	11	0	0	11		69	16%
1999	JAGU	XJR	3	0	0	3		14	21%
1999	JAGU	XK8	5	0	0	5		37	14%
1999	JEEP	CHEROKEE	697	383	0	1080		3358	32%
1999	JEEP	WRANGLER	57	58	0	115		697	16%
1999	KIA	SEPHIA	69	0	0	69		260	27%
1999	KIA	SPORTAGE	33	13	0	46		232	20%
1999	LEXS	ES 300	84	47	0	131		291	45%
1999	LEXS	GS 300	38	0	0	38		115	33%
1999	LEXS	GS 400	5	0	0	5		42	12%
1999	LEXS	LS 400	31	0	0	31		87	36%
1999	LEXS	LX 470	28	0	0	28		108	26%
1999	LEXS	RX 300	163	70	0	233		598	39%
1999	LEXS	SC 400	1	0	0	1		3	33%
1999	LINC		1	0	0	1		2	50%
1999	LINC	CONTINENTAL	31	0	0	31		253	12%
1999	LINC	NAVIGATOR	56	0	0	56		275	20%
1999	LINC	TOWN CAR	128	0	0	128		680	19%
1999	LNDR	DISCOVERY	25	1	0	26		85	31%
1999	LNDR	RANGE ROVER	5	0	0	5		25	20%
1999	MAZD	626	201	0	0	201		996	20%
1999	MAZD	B2500	39	0	0	39		197	20%
1999	MAZD	B3000	25	0	0	25		123	20%
1999	MAZD	B4000	7	0	0	7		37	19%
1999	MAZD	MILLENNIA	36	19	0	55		163	34%
1999	MAZD	MX5 MIATA	34	32	0	66		286	23%
1999	MAZD	PROTEGE	150	0	0	150		788	19%
1999	MERC		1	0	0	1		2	50%
1999	MERC	BROUGHAM	1	0	0	1		2	50%
1999	MERC	COUGAR	147	88	0	235		956	25%
1999	MERC	GRAND MARQUIS	200	0	0	200		1160	17%
1999	MERC	MOUNTAINEER	80	8	0	88		437	20%
1999	MERC	MYSTIQUE	69	0	0	69		484	14%
1999	MERC	SABLE	190	77	0	267		1059	25%
1999	MERC	TRACER	38	0	0	38		259	15%
1999	MERC	VILLAGER	117	0	0	117		557	21%
1999	MERZ		1	0	0	1		2	50%
1999	MERZ	230	29	0	0	29		194	15%
1999	MERZ	280	19	0	0	19		71	27%
1999	MERZ	320	59	0	0	59		231	26%
1999	MERZ	420	3	0	0	3		22	14%
1999	MERZ	500	18	0	0	18		79	23%
1999	MERZ	C43	1	0	0	1		4	25%
1999	MERZ	CLK320	21	0	0	21		69	30%
1999	MERZ	CLK430	5	0	0	5		33	15%

**Appendix A3**  
**Vehicles RapidScreened**

<b>Year</b>	<b>Make</b>	<b>Model</b>	<b>RSD</b>	<b>Hybrid</b>	<b>LEI</b>	<b>Total Rapid Screen</b>		<b>Total Vehicles Tested</b>	<b>Rapid Screen %</b>
						<b>Total</b>	<b>Rapid Screen</b>		
1999	MERZ	E430	4	0	0	4	35	11%	
1999	MERZ	ML320	59	0	0	59	214	28%	
1999	MERZ	ML430	17	0	0	17	84	20%	
1999	MITS	3000	11	4	0	15	63	24%	
1999	MITS	DIAMANTE	21	0	0	21	66	32%	
1999	MITS	ECLIPSE	65	37	0	102	415	25%	
1999	MITS	GALANT	74	0	0	74	354	21%	
1999	MITS	MIRAGE	19	15	0	34	149	23%	
1999	MITS	MONTERO	24	7	0	31	158	20%	
1999	NISS	ALTIMA	411	196	0	607	1522	40%	
1999	NISS	FRONTIER	19	0	0	19	106	18%	
1999	NISS	MAXIMA	222	108	0	330	877	38%	
1999	NISS	PATHFINDER	132	52	0	184	477	39%	
1999	NISS	QUEST	66	0	0	66	293	23%	
1999	NISS	SENTRA	66	33	0	99	326	30%	
1999	OLDS	88	61	44	0	105	370	28%	
1999	OLDS	ALERO	282	61	0	343	1309	26%	
1999	OLDS	AURORA	27	31	0	58	145	40%	
1999	OLDS	BRAVADA	36	25	0	61	198	31%	
1999	OLDS	CUTLASS	80	0	0	80	444	18%	
1999	OLDS	DELTA 88	1	0	0	1	1	100%	
1999	OLDS	INTRIGUE	245	0	0	245	1039	24%	
1999	OLDS	LSS	0	2	0	2	3	67%	
1999	OLDS	SILHOUETTE	87	0	0	87	436	20%	
1999	PLYM	BREEZE	75	45	0	120	446	27%	
1999	PLYM	GRAND VOYAGER	123	27	0	150	487	31%	
1999	PLYM	NEON	81	46	0	127	487	26%	
1999	PLYM	VOYAGER	145	11	0	156	529	29%	
1999	PONT	2 PLUS 2	7	0	0	7	9	78%	
1999	PONT	ACADIAN	1	0	0	1	3	33%	
1999	PONT	BONNEVILLE	120	81	0	201	563	36%	
1999	PONT	FIREBIRD	51	34	0	85	415	20%	
1999	PONT	GRAND AM	619	316	0	935	2906	32%	
1999	PONT	GRAND PRIX	380	180	0	560	1576	36%	
1999	PONT	MONTANA	96	0	0	96	456	21%	
1999	PONT	SUNFIRE	153	57	0	210	913	23%	
1999	PONT	TRANS SPORT	2	0	0	2	2	100%	
1999	PORS	911	1	2	0	3	16	19%	
1999	PORS	911 CARRERA	6	4	0	10	60	17%	
1999	PORS	BOXSTER	6	0	0	6	78	8%	
1999	SAA		3	0	0	3	4	75%	
1999	SAA	9/5	15	0	0	15	41	37%	
1999	SAA	9/E	22	4	0	26	73	36%	
1999	SAA	900	4	1	0	5	5	100%	
1999	SAA	9-3	39	26	0	65	200	33%	
1999	SAA	93V	2	0	0	2	4	50%	
1999	SATR		1	0	0	1	2	50%	
1999	STRN	SC	97	10	0	107	518	21%	
1999	STRN	SL	343	220	0	563	1803	31%	
1999	STRN	SW	23	24	0	47	121	39%	

**Appendix A3**  
**Vehicles RapidScreened**

<b>Year</b>	<b>Make</b>	<b>Model</b>	<b>RSD</b>	<b>Hybrid</b>	<b>LEI</b>	<b>Total Rapid Screen</b>		<b>Total Vehicles Tested</b>	<b>Rapid Screen %</b>
						<b>Total</b>	<b>Rapid Screen</b>		
1999	SUBA	FORESTER	44	0	0	44		211	21%
1999	SUBA	IMPREZA	8	15	0	23		75	31%
1999	SUBA	LEGACY	58	45	0	103		330	31%
1999	SUZI		0	1	0	1		2	50%
1999	SUZI	ESTEEM	5	4	0	9		42	21%
1999	SUZI	GRAND VITARA	4	1	0	5		12	42%
1999	SUZI	SWIFT	0	2	0	2		2	100%
1999	SUZI	VITARA	50	40	0	90		328	27%
1999	TOYT		3	1	0	4		6	67%
1999	TOYT	4RUNNER	155	64	0	219		544	40%
1999	TOYT	AVALON	93	74	0	167		396	42%
1999	TOYT	CAMRY	828	434	0	1262		3341	38%
1999	TOYT	CELICA	14	0	0	14		56	25%
1999	TOYT	COROLLA	221	175	0	396		1364	29%
1999	TOYT	LAND CRUISER	36	7	0	43		87	49%
1999	TOYT	RAV4	60	25	0	85		386	22%
1999	TOYT	SIENNA	165	78	0	243		559	43%
1999	TOYT	TACOMA	62	8	0	70		323	22%
1999	TOYT	TERCEL	1	0	0	1		1	100%
1999	VOLK	BEETLE	41	30	0	71		366	19%
1999	VOLK	CABRIO	26	0	0	26		123	21%
1999	VOLK	EUROVAN	2	0	0	2		15	13%
1999	VOLK	GOLF	8	1	0	9		49	18%
1999	VOLK	GTI	1	0	0	1		18	6%
1999	VOLK	JETTA	126	59	0	185		667	28%
1999	VOLK	PASSAT	125	49	0	174		509	34%
1999	VOLV		1	0	0	1		2	50%
1999	VOLV	70	42	0	0	42		180	23%
1999	VOLV	C70	6	0	0	6		62	10%
1999	VOLV	S70	20	0	0	20		81	25%
1999	VOLV	S80	64	35	0	99		222	45%
1999	VOLV	V70	19	0	0	19		115	17%
1999	VOLV	V70R	1	0	0	1		3	33%
1998	ACUR	3.2 TL	1	0	0	1		48	2%
1998	ACUR	3.5 RL	1	0	0	1		38	3%
1998	AUDI	A4	0	1	0	1		69	1%
1998	AUDI	QUATTRO	0	1	0	1		37	3%
1998	BMW	318I	0	1	0	1		25	4%
1998	BMW	323IC	1	0	0	1		30	3%
1998	BMW	528I	1	1	0	2		119	2%
1998	BMW	540I	2	0	0	2		19	11%
1998	BMW	740I	1	1	0	2		88	2%
1998	BMW	750IL	1	0	0	1		6	17%
1998	BMW	Z3	1	0	0	1		46	2%
1998	BUIC	CENTURY	5	0	0	5		196	3%
1998	BUIC	LESABRE	8	1	0	9		173	5%
1998	BUIC	PARK AVENUE	1	1	0	2		64	3%
1998	BUIC	REGAL	3	4	0	7		96	7%
1998	BUIC	SKYLARK	0	1	0	1		20	5%
1998	CADI	CATERA	3	1	0	4		104	4%

**Appendix A3**  
**Vehicles RapidScreened**

<b>Year</b>	<b>Make</b>	<b>Model</b>	<b>RSD</b>	<b>Hybrid</b>	<b>LEI</b>	<b>Total Rapid Screen</b>	<b>Total Vehicles Tested</b>	<b>Rapid Screen %</b>
1998	CADI	DEVILLE	2	3	0	5	263	2%
1998	CADI	ELDORADO	0	1	0	1	39	3%
1998	CADI	SEVILLE	3	4	0	7	118	6%
1998	CHEV		0	1	0	1	2	50%
1998	CHEV	ASTRO VAN	5	2	0	7	128	5%
1998	CHEV	BLAZER	6	8	0	14	656	2%
1998	CHEV	C1500	4	0	0	4	233	2%
1998	CHEV	C2500	1	0	0	1	3	33%
1998	CHEV	CAMARO	5	1	0	6	158	4%
1998	CHEV	CAVALIER	15	9	0	24	814	3%
1998	CHEV	G30	1	0	0	1	2	50%
1998	CHEV	K1500	10	6	0	16	546	3%
1998	CHEV	LUMINA	18	7	0	25	339	7%
1998	CHEV	MALIBU	16	9	1	26	554	5%
1998	CHEV	METRO	2	0	0	2	55	4%
1998	CHEV	MONTE CARLO	1	2	0	3	138	2%
1998	CHEV	PRIZM	3	3	0	6	88	7%
1998	CHEV	S10	9	8	0	17	694	2%
1998	CHEV	SUBURBAN	1	0	0	1	72	1%
1998	CHEV	VENTURE	9	2	0	11	219	5%
1998	CHRY	CONCORDE	2	0	0	2	130	2%
1998	CHRY	SEBRING	8	2	0	10	272	4%
1998	CHRY	TOWN & COUNTRY	5	3	0	8	105	8%
1998	DODG	AVENGER	1	0	0	1	130	1%
1998	DODG	CARAVAN	17	10	1	28	492	6%
1998	DODG	DAKOTA	5	2	0	7	309	2%
1998	DODG	DURANGO	4	5	0	9	283	3%
1998	DODG	INTREPID	3	2	0	5	191	3%
1998	DODG	NEON	4	5	0	9	393	2%
1998	DODG	RAM 1500	9	7	0	16	532	3%
1998	DODG	RAM VAN	1	1	0	2	40	5%
1998	DODG	STRATUS	6	3	0	9	251	4%
1998	FORD	CONTOUR	13	4	0	17	437	4%
1998	FORD	CROWN VICTORIA	1	1	0	2	105	2%
1998	FORD	ECONOLINE	4	0	0	4	98	4%
1998	FORD	ESCORT	6	9	0	15	785	2%
1998	FORD	EXPEDITION	8	5	0	13	410	3%
1998	FORD	EXPLORER	25	17	1	43	979	4%
1998	FORD	F150	10	7	0	17	742	2%
1998	FORD	F250	2	0	0	2	38	5%
1998	FORD	MUSTANG	4	8	0	12	467	3%
1998	FORD	RANGER	6	10	0	16	535	3%
1998	FORD	TAURUS	12	7	0	19	675	3%
1998	FORD	WINDSTAR	22	7	0	29	598	5%
1998	GEO	METRO	0	1	0	1	1	100%
1998	GEO	TRACKER	1	0	0	1	1	100%
1998	GMC	JIMMY	6	2	0	8	232	3%
1998	GMC	K1500	2	1	0	3	50	6%
1998	GMC	K2500	2	0	0	2	6	33%
1998	GMC	SAFARI	4	0	0	4	81	5%

**Appendix A3**  
**Vehicles RapidScreened**

<b>Year</b>	<b>Make</b>	<b>Model</b>	<b>RSD</b>	<b>Hybrid</b>	<b>LEI</b>	<b>Total</b>		<b>Total Vehicles Tested</b>	<b>Rapid Screen %</b>
						<b>Total Rapid Screen</b>	<b>Vehicles Tested</b>		
1998	GMC	SAVANA	1	0	0	1	69	1%	
1998	GMC	SIERRA	2	2	0	4	187	2%	
1998	GMC	SONOMA	4	3	0	7	214	3%	
1998	GMC	YUKON	2	2	0	4	63	6%	
1998	HOND	ACCORD	17	7	0	24	654	4%	
1998	HOND	CIVIC	6	7	0	13	554	2%	
1998	HOND	CR-V	1	4	0	5	141	4%	
1998	HOND	PASSPORT	1	1	0	2	34	6%	
1998	HYUN	ACCENT	0	1	0	1	30	3%	
1998	HYUN	ELANTRA	1	0	0	1	65	2%	
1998	HYUN	TIBURON	1	0	0	1	22	5%	
1998	INFI	I30	5	2	0	7	121	6%	
1998	INFI	QX4	3	2	0	5	89	6%	
1998	ISU	RODEO	2	3	0	5	112	4%	
1998	ISU	TROOPER	1	1	0	2	19	11%	
1998	JAGU	XJ8	2	0	0	2	36	6%	
1998	JEEP	CHEROKEE	11	4	0	15	620	2%	
1998	JEEP	GRAND CHEROKEE	8	4	0	12	485	2%	
1998	JEEP	WRANGLER	1	1	1	3	246	1%	
1998	KIA	SEPHIA	2	0	0	2	35	6%	
1998	KIA	SPORTAGE	2	0	0	2	41	5%	
1998	LEXS	ES 300	2	2	0	4	146	3%	
1998	LEXS	GS 300	3	0	0	3	47	6%	
1998	LEXS	GS 400	0	1	0	1	36	3%	
1998	LEXS	LS 400	1	0	0	1	56	2%	
1998	LINC	CONTINENTAL	6	0	0	6	90	7%	
1998	LINC	MARK VIII	0	1	0	1	24	4%	
1998	LINC	NAVIGATOR	2	2	0	4	175	2%	
1998	LINC	TOWN CAR	3	0	0	3	164	2%	
1998	LNDR	DISCOVERY	1	1	0	2	33	6%	
1998	MAZD	626	6	3	0	9	373	2%	
1998	MAZD	MILLENNIA	1	0	0	1	68	1%	
1998	MERC	GRAND MARQUIS	3	4	0	7	139	5%	
1998	MERC	MOUNTAINEER	2	2	0	4	127	3%	
1998	MERC	MYSTIQUE	4	1	0	5	99	5%	
1998	MERC	SABLE	3	5	0	8	151	5%	
1998	MERC	TRACER	0	1	0	1	63	2%	
1998	MERC	VILLAGER	3	1	0	4	100	4%	
1998	MERZ	230	1	1	0	2	116	2%	
1998	MERZ	280	2	0	0	2	28	7%	
1998	MERZ	320	1	0	0	1	54	2%	
1998	MERZ	ML320	1	0	1	2	75	3%	
1998	MITS	3000	1	0	0	1	16	6%	
1998	MITS	ECLIPSE	3	1	0	4	188	2%	
1998	NISS	ALTIMA	4	2	0	6	363	2%	
1998	NISS	FRONTIER	1	2	0	3	37	8%	
1998	NISS	MAXIMA	3	5	0	8	184	4%	
1998	NISS	QUEST	1	0	0	1	9	11%	
1998	NISS	SENTRA	3	0	0	3	70	4%	
1998	OLDS	88	3	3	0	6	103	6%	

**Appendix A3**  
**Vehicles RapidScreened**

<b>Year</b>	<b>Make</b>	<b>Model</b>	<b>RSD</b>	<b>Hybrid</b>	<b>LEI</b>	<b>Total Rapid Screen</b>		<b>Total Vehicles Tested</b>	<b>Rapid Screen %</b>
						<b>Total</b>	<b>Rapid Screen</b>		
1998	OLDS	AURORA	3	3	0	6		120	5%
1998	OLDS	BRAVADA	3	1	0	4		123	3%
1998	OLDS	CUTLASS	8	2	0	10		159	6%
1998	OLDS	INTRIGUE	6	3	0	9		257	4%
1998	OLDS	REGENCY	1	0	0	1		21	5%
1998	OLDS	SILHOUETTE	2	4	0	6		84	7%
1998	PLYM	BREEZE	5	1	0	6		165	4%
1998	PLYM	GRAND VOYAGER	5	2	0	7		97	7%
1998	PLYM	NEON	6	2	0	8		243	3%
1998	PLYM	VOYAGER	7	3	0	10		135	7%
1998	PONT	BONNEVILLE	3	2	1	6		135	4%
1998	PONT	FIREBIRD	1	0	0	1		122	1%
1998	PONT	GRAND AM	7	3	0	10		241	4%
1998	PONT	GRAND PRIX	6	4	0	10		395	3%
1998	PONT	SUNFIRE	3	2	0	5		327	2%
1998	PONT	TRANS SPORT	2	1	0	3		112	3%
1998	SAA	900	1	0	0	1		31	3%
1998	STRN	SC	0	1	0	1		183	1%
1998	STRN	SL	9	4	0	13		375	3%
1998	SUBA	FORESTER	1	0	0	1		47	2%
1998	SUBA	IMPREZA	0	2	0	2		12	17%
1998	SUBA	LEGACY	1	1	0	2		60	3%
1998	TOYT	4RUNNER	5	3	0	8		175	5%
1998	TOYT	AVALON	2	1	0	3		148	2%
1998	TOYT	CAMRY	17	7	0	24		918	3%
1998	TOYT	COROLLA	5	4	0	9		406	2%
1998	TOYT	RAV4	1	1	0	2		131	2%
1998	TOYT	SIENNA	3	3	0	6		83	7%
1998	TOYT	T100	2	0	0	2		11	18%
1998	TOYT	TACOMA	1	1	0	2		111	2%
1998	VOLK	JETTA	2	0	0	2		117	2%
1998	VOLK	PASSAT	2	0	0	2		61	3%
1998	VOLV	70	4	2	0	6		182	3%
1998	VOLV	S70	2	0	0	2		72	3%
1998	VOLV	V70	2	1	0	3		58	5%
1997	ACUR		2	4	0	6		9	67%
1997	ACUR	2.5TL	15	11	0	26		68	38%
1997	ACUR	25T	17	0	0	17		60	28%
1997	ACUR	3.0 CL	46	38	0	84		271	31%
1997	ACUR	3.2 TL	14	1	0	15		78	19%
1997	ACUR	3.5 RL	21	10	0	31		126	25%
1997	ACUR	INTEGRA	30	27	0	57		245	23%
1997	ACUR	SE	3	0	0	3		4	75%
1997	ACUR	SLX	3	0	0	3		18	17%
1997	AUDI	A4	20	3	0	23		84	27%
1997	AUDI	A6	1	1	0	2		15	13%
1997	AUDI	A8	2	1	0	3		9	33%
1997	AUDI	CABRIOLET	3	0	0	3		12	25%
1997	AUDI	QUATTRO	7	6	0	13		32	41%
1997	BMW		2	0	0	2		4	50%

**Appendix A3**  
**Vehicles RapidScreened**

<b>Year</b>	<b>Make</b>	<b>Model</b>	<b>RSD</b>	<b>Hybrid</b>	<b>LEI</b>	<b>Total Rapid Screen</b>	<b>Total Vehicles Tested</b>	<b>Rapid Screen %</b>
1997	BMW	318I	16	7	0	23	105	22%
1997	BMW	328I	47	12	0	59	217	27%
1997	BMW	528I	43	28	0	71	224	32%
1997	BMW	540I	16	7	0	23	67	34%
1997	BMW	740I	29	14	0	43	122	35%
1997	BMW	840CI	1	0	0	1	2	50%
1997	BMW	M3	8	0	0	8	49	16%
1997	BMW	Z3	12	18	0	30	151	20%
1997	BUIC	CENTURY	73	33	0	106	425	25%
1997	BUIC	LESABRE	190	177	0	367	1213	30%
1997	BUIC	PARK AVENUE	71	44	0	115	417	28%
1997	BUIC	REGAL	26	8	0	34	145	23%
1997	BUIC	RIVIERA	31	12	0	43	143	30%
1997	BUIC	SKYLARK	84	67	0	151	522	29%
1997	CADI	CATERA	33	18	0	51	232	22%
1997	CADI	CMRCL CHASSIS	2	0	0	2	7	29%
1997	CADI	DEVILLE	113	113	0	226	813	28%
1997	CADI	ELDORADO	16	20	0	36	151	24%
1997	CADI	SEVILLE	63	43	0	106	348	30%
1997	CHEV		3	2	0	5	8	63%
1997	CHEV	ASTRO VAN	160	118	0	278	712	39%
1997	CHEV	BLAZER	339	202	0	541	1691	32%
1997	CHEV	C1500	179	27	0	206	905	23%
1997	CHEV	C20	1	0	0	1	1	100%
1997	CHEV	C2500	14	0	0	14	39	36%
1997	CHEV	C3500	5	0	0	5	6	83%
1997	CHEV	CAMARO	45	52	0	97	424	23%
1997	CHEV	CAVALIER	554	368	0	922	3541	26%
1997	CHEV	CORVETTE	12	8	0	20	80	25%
1997	CHEV	EXPRESS	15	0	0	15	30	50%
1997	CHEV	G10	12	0	0	12	70	17%
1997	CHEV	G20	5	0	0	5	30	17%
1997	CHEV	G30	15	0	0	15	16	94%
1997	CHEV	K1500	287	179	0	466	1643	28%
1997	CHEV	K2500	13	0	0	13	22	59%
1997	CHEV	K3500	2	0	0	2	2	100%
1997	CHEV	LUMINA	475	294	0	769	2323	33%
1997	CHEV	MALIBU	237	131	0	368	1085	34%
1997	CHEV	MONTE CARLO	126	71	0	197	568	35%
1997	CHEV	PRIZM	0	1	0	1	1	100%
1997	CHEV	S10	190	141	0	331	1211	27%
1997	CHEV	SUBURBAN	81	33	0	114	411	28%
1997	CHEV	VENTURE	110	57	0	167	471	35%
1997	CHRY	CIRRUS	56	35	0	91	269	34%
1997	CHRY	CONCORDE	80	44	0	124	437	28%
1997	CHRY	INTREPID	1	0	0	1	9	11%
1997	CHRY	LHS	66	44	0	110	315	35%
1997	CHRY	SEBRING	242	169	0	411	1186	35%
1997	CHRY	TOWN & COUNTRY	136	73	0	209	644	32%
1997	DODG		3	1	0	4	8	50%

**Appendix A3**  
**Vehicles RapidScreened**

<b>Year</b>	<b>Make</b>	<b>Model</b>	<b>RSD</b>	<b>Hybrid</b>	<b>LEI</b>	<b>Total Rapid Screen</b>		<b>Total Vehicles Tested</b>	<b>Rapid Screen %</b>
						<b>Total</b>	<b>Rapid Screen</b>		
1997	DODG	AVENGER	64	44	0	108		434	25%
1997	DODG	B250	4	1	0	5		5	100%
1997	DODG	B350	6	0	0	6		6	100%
1997	DODG	CARAVAN	582	319	0	901		2400	38%
1997	DODG	DAKOTA	135	41	0	176		959	18%
1997	DODG	INTREPID	283	230	0	513		1514	34%
1997	DODG	NEON	161	120	0	281		1070	26%
1997	DODG	RAM 1500	281	216	0	497		1812	27%
1997	DODG	RAM 2500	10	0	0	10		19	53%
1997	DODG	RAM VAN	72	36	0	108		295	37%
1997	DODG	RAM WAGON	11	2	0	13		43	30%
1997	DODG	STRATUS	168	124	0	292		893	33%
1997	EGIL	TALON	23	15	0	38		200	19%
1997	EGIL	VISION	11	7	0	18		63	29%
1997	FORD		4	4	0	8		12	67%
1997	FORD	AEROSTAR	66	46	0	112		385	29%
1997	FORD	ASPIRE	32	30	0	62		267	23%
1997	FORD	CLUB WAGON	7	0	0	7		59	12%
1997	FORD	CONTOUR	70	72	0	142		623	23%
1997	FORD	CROWN VICTORIA	61	66	0	127		627	20%
1997	FORD	ECONOLINE	164	30	0	194		590	33%
1997	FORD	ESCORT	458	354	0	812		2772	29%
1997	FORD	EXPEDITION	254	159	0	413		1225	34%
1997	FORD	EXPLORER	567	371	0	938		2875	33%
1997	FORD	F100	2	0	0	2		2	100%
1997	FORD	F150	705	492	0	1197		4029	30%
1997	FORD	F250	51	9	0	60		193	31%
1997	FORD	MUSTANG	85	57	0	142		675	21%
1997	FORD	PROBE	33	33	0	66		234	28%
1997	FORD	RANGER	261	237	0	498		1959	25%
1997	FORD	TAURUS	473	425	0	898		3449	26%
1997	FORD	THUNDERBIRD	72	45	0	117		412	28%
1997	FORD	WINDSTAR	63	28	0	91		278	33%
1997	GEO	METRO	34	43	0	77		491	16%
1997	GEO	PRIZM	99	67	0	166		524	32%
1997	GEO	TRACKER	10	9	0	19		103	18%
1997	GMC		10	0	0	10		16	63%
1997	GMC	C1500	11	0	0	11		48	23%
1997	GMC	JIMMY	124	72	0	196		623	31%
1997	GMC	K1500	48	29	0	77		266	29%
1997	GMC	K2500	3	0	0	3		7	43%
1997	GMC	SAFARI	131	69	0	200		594	34%
1997	GMC	SAVANA	57	0	0	57		297	19%
1997	GMC	SIERRA	137	31	0	168		744	23%
1997	GMC	SONOMA	73	18	0	91		416	22%
1997	GMC	YUKON	50	36	0	86		282	30%
1997	HOND		0	1	0	1		2	50%
1997	HOND	ACCORD	549	270	0	819		2270	36%
1997	HOND	CIVIC	251	188	0	439		1724	25%
1997	HOND	CR-V	92	77	0	169		440	38%

**Appendix A3**  
**Vehicles RapidScreened**

<b>Year</b>	<b>Make</b>	<b>Model</b>	<b>RSD</b>	<b>Hybrid</b>	<b>LEI</b>	<b>Total</b>		<b>Total Vehicles Tested</b>	<b>Rapid Screen %</b>
						<b>Total</b>	<b>Rapid Screen</b>		
1997	HOND	ODYSSEY	49	33	0	82		179	46%
1997	HOND	PASSPORT	30	15	0	45		137	33%
1997	HOND	PRELUDE	14	11	0	25		139	18%
1997	HYUN		1	0	0	1		2	50%
1997	HYUN	ACCENT	15	20	0	35		153	23%
1997	HYUN	ELANTRA	42	26	0	68		253	27%
1997	HYUN	SONATA	18	16	0	34		97	35%
1997	HYUN	TIBURON	16	10	0	26		131	20%
1997	INFI		1	0	0	1		2	50%
1997	INFI	I30	82	47	0	129		342	38%
1997	INFI	J30	13	9	0	22		64	34%
1997	INFI	Q45	18	0	0	18		83	22%
1997	INFI	QX4	38	21	0	59		186	32%
1997	ISU	HOMBRE	2	0	0	2		28	7%
1997	ISU	OASIS	4	0	0	4		10	40%
1997	ISU	RODEO	63	27	0	90		234	38%
1997	ISU	TROOPER	7	1	0	8		32	25%
1997	JAGU		1	0	0	1		2	50%
1997	JAGU	VDP	4	1	0	5		17	29%
1997	JAGU	XJ6	17	11	0	28		84	33%
1997	JAGU	XK8	13	0	0	13		60	22%
1997	JEEP	CHEROKEE	260	157	0	417		1358	31%
1997	JEEP	GRAND CHEROKEE	238	137	0	375		1168	32%
1997	JEEP	WRANGLER	42	96	0	138		1001	14%
1997	KIA	SEPHIA	2	1	0	3		17	18%
1997	KIA	SPORTAGE	2	0	0	2		16	13%
1997	LEXS	ES 300	107	53	0	160		405	40%
1997	LEXS	LS 400	21	13	0	34		100	34%
1997	LEXS	LS 450	15	4	0	19		69	28%
1997	LEXS	SC 300	2	0	0	2		20	10%
1997	LEXS	SC 400	1	0	0	1		9	11%
1997	LINC		1	1	0	2		3	67%
1997	LINC	CONTINENTAL	55	0	0	55		302	18%
1997	LINC	MARK VIII	17	0	0	17		118	14%
1997	LINC	TOWN CAR	136	114	0	250		849	29%
1997	LNDR	DEFENDER	1	0	0	1		19	5%
1997	LNDR	DISCOVERY	8	9	0	17		79	22%
1997	LNDR	RANGE ROVER	4	0	0	4		16	25%
1997	MAZD		0	1	0	1		2	50%
1997	MAZD	626	154	89	0	243		731	33%
1997	MAZD	B2300	27	17	0	44		183	24%
1997	MAZD	B4000	14	3	0	17		49	35%
1997	MAZD	MILLENNIA	33	7	0	40		106	38%
1997	MAZD	MPV WAGON	26	7	0	33		88	38%
1997	MAZD	MX5 MIATA	10	14	0	24		105	23%
1997	MAZD	MX-6	2	0	0	2		3	67%
1997	MAZD	PROTEGE	108	81	0	189		615	31%
1997	MERC		1	4	0	5		9	56%
1997	MERC	COUGAR	53	54	0	107		365	29%
1997	MERC	GRAND MARQUIS	224	171	0	395		1252	32%

**Appendix A3**  
**Vehicles RapidScreened**

<b>Year</b>	<b>Make</b>	<b>Model</b>	<b>RSD</b>	<b>Hybrid</b>	<b>LEI</b>	<b>Total</b>		<b>Total Vehicles Tested</b>	<b>Rapid Screen %</b>
						<b>Total</b>	<b>Rapid Screen</b>		
1997	MERC	MOUNTAINEER	123	65	0	188		559	34%
1997	MERC	MYSTIQUE	14	14	0	28		156	18%
1997	MERC	SABLE	182	159	0	341		1007	34%
1997	MERC	TRACER	96	54	0	150		471	32%
1997	MERC	VILLAGER	150	123	0	273		731	37%
1997	MERZ	230	19	6	0	25		119	21%
1997	MERZ	280	15	4	0	19		64	30%
1997	MERZ	320	45	18	0	63		215	29%
1997	MERZ	420	18	12	0	30		115	26%
1997	MERZ	500	6	0	0	6		48	13%
1997	MITS		1	0	0	1		2	50%
1997	MITS	3000	8	0	0	8		60	13%
1997	MITS	DIAMANTE	16	8	0	24		114	21%
1997	MITS	ECLIPSE	80	48	0	128		537	24%
1997	MITS	GALANT	75	33	0	108		388	28%
1997	MITS	MIRAGE	29	21	0	50		180	28%
1997	MITS	MONTERO	30	8	0	38		192	20%
1997	NISS	200SX	11	13	0	24		88	27%
1997	NISS	240SX	3	2	0	5		18	28%
1997	NISS	ALTIMA	273	180	0	453		1348	34%
1997	NISS	KING CAB	6	6	0	12		67	18%
1997	NISS	MAXIMA	232	117	0	349		979	36%
1997	NISS	PATHFINDER	67	51	0	118		437	27%
1997	NISS	QUEST	36	22	0	58		165	35%
1997	NISS	SENTRA	90	61	0	151		504	30%
1997	NISS	STANDARD	11	6	0	17		82	21%
1997	OLDS	88	70	54	0	124		435	29%
1997	OLDS	ACHIEVA	84	56	0	140		480	29%
1997	OLDS	AURORA	35	34	0	69		269	26%
1997	OLDS	BRAVADA	60	33	0	93		283	33%
1997	OLDS	CUTLASS	119	67	0	186		627	30%
1997	OLDS	LSS	18	9	0	27		78	35%
1997	OLDS	REGENCY	9	0	0	9		66	14%
1997	OLDS	SILHOUETTE	67	27	0	94		241	39%
1997	PLYM		1	0	0	1		2	50%
1997	PLYM	BREEZE	100	59	0	159		634	25%
1997	PLYM	NEON	119	88	0	207		778	27%
1997	PLYM	VOYAGER	314	161	0	475		1219	39%
1997	PONT	BONNEVILLE	135	94	0	229		672	34%
1997	PONT	FIREBIRD	44	33	0	77		314	25%
1997	PONT	GRAND AM	377	236	0	613		2005	31%
1997	PONT	GRAND PRIX	334	185	0	519		1469	35%
1997	PONT	SUNFIRE	199	128	0	327		1305	25%
1997	PONT	TRANS SPORT	74	55	0	129		309	42%
1997	PORS		1	1	0	2		4	50%
1997	PORS	911	1	1	0	2		17	12%
1997	PORS	BOXSTER	1	0	0	1		26	4%
1997	SAA	900	20	13	0	33		115	29%
1997	SAA	9000	6	0	0	6		14	43%
1997	SAA	9-3	1	0	0	1		1	100%

**Appendix A3**  
**Vehicles RapidScreened**

<b>Year</b>	<b>Make</b>	<b>Model</b>	<b>RSD</b>	<b>Hybrid</b>	<b>LEI</b>	<b>Total</b>		<b>Total Vehicles Tested</b>	<b>Rapid Screen %</b>
						<b>Total</b>	<b>Rapid Screen</b>		
1997	STRN	SC	147	103	0	250	893	28%	
1997	STRN	SL	365	272	0	637	2157	30%	
1997	STRN	SW	47	25	0	72	248	29%	
1997	SUBA		1	1	0	2	5	40%	
1997	SUBA	IMPREZA	16	3	0	19	85	22%	
1997	SUBA	LEGACY	37	43	0	80	294	27%	
1997	SUZI	ESTEEM	1	0	0	1	13	8%	
1997	SUZI	SIDEKICK	11	10	0	21	138	15%	
1997	TOYT		4	5	0	9	13	69%	
1997	TOYT	4RUNNER	95	49	0	144	456	32%	
1997	TOYT	AVALON	119	77	0	196	478	41%	
1997	TOYT	CAMRY	592	359	0	951	2605	37%	
1997	TOYT	CELICA	24	0	0	24	136	18%	
1997	TOYT	COROLLA	191	142	0	333	1228	27%	
1997	TOYT	LAND CRUISER	15	11	0	26	86	30%	
1997	TOYT	PASEO	2	0	0	2	30	7%	
1997	TOYT	PREVIA	7	0	0	7	20	35%	
1997	TOYT	RAV4	67	38	0	105	368	29%	
1997	TOYT	T100	11	4	0	15	57	26%	
1997	TOYT	TACOMA	36	26	0	62	236	26%	
1997	TOYT	TERCEL	28	16	0	44	169	26%	
1997	VOLK		2	0	0	2	3	67%	
1997	VOLK	CABRIO	12	0	0	12	71	17%	
1997	VOLK	EUROVAN	1	0	0	1	5	20%	
1997	VOLK	GOLF	10	4	0	14	78	18%	
1997	VOLK	GTI	8	1	0	9	29	31%	
1997	VOLK	JETTA	76	54	0	130	450	29%	
1997	VOLK	PASSAT	11	9	0	20	55	36%	
1997	VOLV		1	0	0	1	2	50%	
1997	VOLV	850	63	38	0	101	286	35%	
1997	VOLV	960	20	0	0	20	113	18%	
1997	VOLV	V70	3	2	0	5	5	100%	
1996	ACUR	3.2 TL	1	1	0	2	24	8%	
1996	ACUR	INTEGRA	2	2	0	4	58	7%	
1996	AUDI	A4	2	0	0	2	14	14%	
1996	AUDI	A6	1	0	0	1	1	100%	
1996	AUDI	QUATTRO	1	0	0	1	25	4%	
1996	BMW	318I	1	0	0	1	28	4%	
1996	BMW	328I	1	0	0	1	39	3%	
1996	BMW	740I	1	0	0	1	10	10%	
1996	BMW	Z3	0	2	0	2	15	13%	
1996	BUIC	CENTURY	5	3	0	8	132	6%	
1996	BUIC	LESABRE	3	1	0	4	49	8%	
1996	BUIC	PARK AVENUE	0	2	0	2	51	4%	
1996	BUIC	REGAL	5	1	0	6	150	4%	
1996	BUIC	ROADMASTER	2	0	0	2	29	7%	
1996	BUIC	SKYLARK	4	1	0	5	76	7%	
1996	CADI	DEVILLE	4	5	0	9	193	5%	
1996	CADI	ELDORADO	2	0	0	2	41	5%	
1996	CADI	FLEETWOOD	1	0	0	1	17	6%	

**Appendix A3**  
**Vehicles RapidScreened**

<b>Year</b>	<b>Make</b>	<b>Model</b>	<b>RSD</b>	<b>Hybrid</b>	<b>LEI</b>	<b>Total Rapid Screen</b>		<b>Total Vehicles Tested</b>	<b>Rapid Screen %</b>
						<b>Total</b>	<b>Rapid Screen</b>		
1996	CADI	SEVILLE	0	2	0	2	76	3%	
1996	CHEV		3	0	0	3	5	60%	
1996	CHEV	ASTRO VAN	3	0	0	3	91	3%	
1996	CHEV	BLAZER	12	3	1	16	429	4%	
1996	CHEV	C1500	2	1	0	3	195	2%	
1996	CHEV	CAMARO	0	1	0	1	136	1%	
1996	CHEV	CAPRICE	1	3	0	4	112	4%	
1996	CHEV	CAVALIER	12	4	0	16	648	2%	
1996	CHEV	CORSICA	12	7	0	19	417	5%	
1996	CHEV	CORVETTE	1	1	0	2	75	3%	
1996	CHEV	G10	2	0	0	2	24	8%	
1996	CHEV	K1500	3	3	1	7	375	2%	
1996	CHEV	LUMINA	18	13	0	31	424	7%	
1996	CHEV	MONTE CARLO	4	2	0	6	183	3%	
1996	CHEV	S10	8	3	0	11	305	4%	
1996	CHEV	SUBURBAN	4	0	0	4	82	5%	
1996	CHRY		1	0	0	1	1	100%	
1996	CHRY	CIRRUS	0	2	0	2	98	2%	
1996	CHRY	CONCORDE	5	2	0	7	108	6%	
1996	CHRY	LHS	4	0	0	4	82	5%	
1996	CHRY	SEBRING	5	4	0	9	256	4%	
1996	CHRY	TOWN & COUNTRY	12	2	0	14	177	8%	
1996	DODG	AVENGER	0	1	0	1	155	1%	
1996	DODG	CARAVAN	19	9	1	29	549	5%	
1996	DODG	DAKOTA	3	0	0	3	156	2%	
1996	DODG	INTREPID	11	3	0	14	377	4%	
1996	DODG	NEON	2	2	0	4	293	1%	
1996	DODG	RAM 1500	7	9	1	17	475	4%	
1996	DODG	RAM VAN	3	0	0	3	65	5%	
1996	DODG	STRATUS	3	0	0	3	211	1%	
1996	FORD		3	0	0	3	4	75%	
1996	FORD	AEROSTAR	3	2	0	5	165	3%	
1996	FORD	CONTOUR	8	6	1	15	342	4%	
1996	FORD	CROWN VICTORIA	2	1	0	3	194	2%	
1996	FORD	ECONOLINE	8	10	1	19	93	20%	
1996	FORD	ESCORT	1	2	0	3	269	1%	
1996	FORD	EXPLORER	11	19	0	30	588	5%	
1996	FORD	F150	10	1	0	11	337	3%	
1996	FORD	MUSTANG	5	3	1	9	283	3%	
1996	FORD	PROBE	1	0	0	1	122	1%	
1996	FORD	RANGER	3	8	0	11	426	3%	
1996	FORD	TAURUS	18	15	0	33	690	5%	
1996	FORD	THUNDERBIRD	1	2	0	3	117	3%	
1996	FORD	WINDSTAR	6	10	0	16	393	4%	
1996	GEO	METRO	0	1	0	1	139	1%	
1996	GEO	PRIZM	3	1	0	4	81	5%	
1996	GEO	TRACKER	0	1	0	1	92	1%	
1996	GMC	JIMMY	3	4	0	7	145	5%	
1996	GMC	K1500	0	1	0	1	34	3%	
1996	GMC	SAFARI	2	1	0	3	98	3%	

**Appendix A3**  
**Vehicles RapidScreened**

<b>Year</b>	<b>Make</b>	<b>Model</b>	<b>RSD</b>	<b>Hybrid</b>	<b>LEI</b>	<b>Total Rapid Screen</b>		<b>Total Vehicles Tested</b>	<b>Rapid Screen %</b>
						<b>Total</b>	<b>Rapid Screen</b>		
1996	GMC	SAVANA	2	0	0	2		92	2%
1996	GMC	SIERRA	0	2	0	2		158	1%
1996	GMC	SONOMA	2	3	0	5		125	4%
1996	GMC	YUKON	0	1	0	1		67	1%
1996	HOND	ACCORD	18	6	0	24		397	6%
1996	HOND	CIVIC	4	5	0	9		215	4%
1996	HOND	PASSPORT	0	1	0	1		21	5%
1996	HYUN	ACCENT	0	1	0	1		59	2%
1996	HYUN	ELANTRA	1	1	0	2		25	8%
1996	INFI	G20	0	1	0	1		25	4%
1996	INFI	I30	2	3	0	5		66	8%
1996	INFI	J30	1	0	0	1		9	11%
1996	ISU	RODEO	1	0	0	1		50	2%
1996	JEEP	CHEROKEE	23	10	0	33		834	4%
1996	LEXS	ES 300	7	2	0	9		57	16%
1996	LEXS	GS 300	1	0	0	1		5	20%
1996	LEXS	LS 400	4	1	0	5		38	13%
1996	LINC	CONTINENTAL	1	0	0	1		50	2%
1996	LINC	MARK VIII	0	2	0	2		23	9%
1996	LINC	TOWN CAR	6	2	0	8		119	7%
1996	LNDR	DISCOVERY	0	1	0	1		26	4%
1996	LNDR	RANGE ROVER	1	0	0	1		8	13%
1996	MAZD		0	1	0	1		1	100%
1996	MAZD	626	3	2	0	5		148	3%
1996	MAZD	B2300	0	2	0	2		27	7%
1996	MAZD	MILLENNIA	0	1	0	1		17	6%
1996	MAZD	MPV WAGON	2	0	0	2		8	25%
1996	MAZD	PROTEGE	3	2	0	5		98	5%
1996	MERC	COUGAR	0	2	0	2		64	3%
1996	MERC	GRAND MARQUIS	6	2	0	8		169	5%
1996	MERC	SABLE	7	3	0	10		221	5%
1996	MERC	VILLAGER	6	4	0	10		76	13%
1996	MERZ	320	1	0	0	1		35	3%
1996	MERZ	500	1	1	0	2		13	15%
1996	MITTS	ECLIPSE	4	0	0	4		117	3%
1996	MITTS	GALANT	1	0	0	1		76	1%
1996	MITTS	MIRAGE	2	0	0	2		12	17%
1996	MITTS	MONTERO	0	1	0	1		20	5%
1996	NISS	ALTIMA	5	5	0	10		133	8%
1996	NISS	MAXIMA	8	7	0	15		183	8%
1996	NISS	PATHFINDER	1	0	0	1		54	2%
1996	NISS	SENTRA	2	0	0	2		125	2%
1996	NISS	STANDARD	0	1	0	1		13	8%
1996	OLDS	88	0	1	0	1		65	2%
1996	OLDS	98	2	2	0	4		24	17%
1996	OLDS	ACHIEVA	2	1	0	3		90	3%
1996	OLDS	ALERIO	1	0	0	1		1	100%
1996	OLDS	AURORA	2	1	0	3		70	4%
1996	OLDS	CIERA	6	3	0	9		216	4%
1996	OLDS	CUTLASS	4	2	0	6		126	5%

## Appendix A3

### Vehicles RapidScreened

Year	Make	Model	RSD	Hybrid	LEI	Total Rapid Screen		Total Vehicles Tested	Total Rapid Screen %
1996	OLDS	LSS	0	1	0	1		21	5%
1996	PLYM	BREEZE	2	1	0	3		135	2%
1996	PLYM	NEON	5	1	0	6		262	2%
1996	PLYM	VOYAGER	6	3	0	9		267	3%
1996	PONT	BONNEVILLE	4	4	0	8		139	6%
1996	PONT	GRAND AM	10	4	0	14		452	3%
1996	PONT	GRAND PRIX	10	3	0	13		199	7%
1996	PONT	SUNFIRE	1	2	0	3		234	1%
1996	SAA	900	1	0	0	1		20	5%
1996	STRN	SC	1	0	0	1		115	1%
1996	STRN	SL	8	9	1	18		351	5%
1996	STRN	SW	2	0	0	2		22	9%
1996	SUBA	LEGACY	0	1	0	1		43	2%
1996	SUBA	SVX	1	0	0	1		1	100%
1996	SUZI	X90	0	1	0	1		5	20%
1996	TOYT	AVALON	1	4	0	5		57	9%
1996	TOYT	CAMRY	21	7	0	28		349	8%
1996	TOYT	COROLLA	5	7	0	12		171	7%
1996	TOYT	LAND CRUISER	1	1	0	2		15	13%
1996	TOYT	RAV4	0	1	0	1		41	2%
1996	TOYT	TACOMA	2	0	0	2		48	4%
1996	VOLK	GOLF	1	0	0	1		22	5%
1996	VOLK	JETTA	0	1	0	1		87	1%
1996	VOLK	PASSAT	1	0	0	1		15	7%
1996	VOLV	850	3	2	0	5		80	6%
1996	VOLV	960	1	0	0	1		13	8%
1995	ACUR		0	1	0	1		3	33%
1995	ACUR	INTEGRA	60	53	0	113		493	23%
1995	ACUR	LEGEND	29	18	0	47		161	29%
1995	AUDI	90	7	4	0	11		24	46%
1995	AUDI	A6	4	2	0	6		17	35%
1995	AUDI	CABRIOLET	1	1	0	2		14	14%
1995	AUDI	QUATTRO	3	5	0	8		31	26%
1995	BMW		0	2	0	2		4	50%
1995	BMW	318I	20	25	0	45		179	25%
1995	BMW	318IC	1	3	0	4		19	21%
1995	BMW	325I	22	29	0	51		213	24%
1995	BMW	525I	33	16	0	49		138	36%
1995	BMW	530I	2	3	0	5		24	21%
1995	BMW	540I	5	3	0	8		23	35%
1995	BMW	740I	24	10	0	34		132	26%
1995	BMW	840CI	1	0	0	1		5	20%
1995	BMW	M3	2	3	0	5		61	8%
1995	BUIC		1	0	0	1		2	50%
1995	BUIC	CENTURY	87	99	0	186		867	21%
1995	BUIC	LESABRE	166	136	0	302		1015	30%
1995	BUIC	PARK AVENUE	52	48	0	100		378	26%
1995	BUIC	REGAL	105	65	0	170		513	33%
1995	BUIC	RIVIERA	52	39	0	91		274	33%
1995	BUIC	ROADMASTER	38	32	0	70		202	35%

**Appendix A3**  
**Vehicles RapidScreened**

<b>Year</b>	<b>Make</b>	<b>Model</b>	<b>RSD</b>	<b>Hybrid</b>	<b>LEI</b>	<b>Total</b>		<b>Total Vehicles Tested</b>	<b>Rapid Screen %</b>
						<b>Total</b>	<b>Rapid Screen</b>		
1995	BUIC	SKYLARK	63	52	0	115		459	25%
1995	CADI	CMRCL CHASSIS	0	2	0	2		6	33%
1995	CADI	DEVILLE	102	83	0	185		732	25%
1995	CADI	ELDORADO	23	24	0	47		200	24%
1995	CADI	FLEETWOOD	16	6	0	22		88	25%
1995	CADI	SEVILLE	46	46	0	92		318	29%
1995	CHEV		2	1	0	3		6	50%
1995	CHEV	ASTRO VAN	111	93	0	204		788	26%
1995	CHEV	BERETTA	109	82	0	191		745	26%
1995	CHEV	BLAZER	176	146	0	322		1190	27%
1995	CHEV	C1500	106	92	0	198		840	24%
1995	CHEV	C2500	5	4	0	9		52	17%
1995	CHEV	CAMARO	105	64	0	169		890	19%
1995	CHEV	CAPRICE	51	50	0	101		381	27%
1995	CHEV	CAVALIER	187	130	0	317		1344	24%
1995	CHEV	CORSICA	177	44	0	221		1307	17%
1995	CHEV	CORVETTE	18	22	0	40		192	21%
1995	CHEV	G10	5	0	0	5		35	14%
1995	CHEV	G20	53	34	0	87		327	27%
1995	CHEV	G30	10	1	0	11		61	18%
1995	CHEV	K1500	134	163	0	297		1305	23%
1995	CHEV	K2500	5	9	0	14		78	18%
1995	CHEV	LUMINA	428	297	0	725		2464	29%
1995	CHEV	MONTE CARLO	96	82	0	178		683	26%
1995	CHEV	S10	93	145	0	238		1298	18%
1995	CHEV	SUBURBAN	43	49	0	92		397	23%
1995	CHRY	CIRRUS	73	56	0	129		511	25%
1995	CHRY	CONCORDE	66	55	0	121		398	30%
1995	CHRY	LEBARON	74	80	0	154		541	28%
1995	CHRY	LHS	34	40	0	74		283	26%
1995	CHRY	NEW YORKER	18	17	0	35		110	32%
1995	CHRY	SEBRING	29	11	0	40		171	23%
1995	CHRY	TOWN & COUNTRY	8	13	0	21		81	26%
1995	DODG		3	1	0	4		8	50%
1995	DODG	AVENGER	63	45	0	108		409	26%
1995	DODG	B150	4	1	0	5		5	100%
1995	DODG	B250	1	1	0	2		2	100%
1995	DODG	B350	2	0	0	2		2	100%
1995	DODG	CARAVAN	223	173	0	396		1412	28%
1995	DODG	DAKOTA	30	49	0	79		702	11%
1995	DODG	INTREPID	201	162	0	363		1362	27%
1995	DODG	NEON	205	164	0	369		1599	23%
1995	DODG	RAM 1500	85	142	0	227		1152	20%
1995	DODG	RAM 2500	4	5	0	9		57	16%
1995	DODG	RAM VAN	15	24	0	39		281	14%
1995	DODG	RAM WAGON	4	5	0	9		57	16%
1995	DODG	SPIRIT	18	24	0	42		261	16%
1995	DODG	STEALTH	6	3	0	9		39	23%
1995	DODG	STRATUS	93	60	0	153		456	34%
1995	EGIL	SUMMIT	5	3	0	8		42	19%

**Appendix A3**  
**Vehicles RapidScreened**

<b>Year</b>	<b>Make</b>	<b>Model</b>	<b>RSD</b>	<b>Hybrid</b>	<b>LEI</b>	<b>Total Rapid Screen</b>		<b>Total Vehicles Tested</b>	<b>Rapid Screen %</b>
						<b>Total</b>	<b>Rapid Screen</b>		
1995	EGIL	TALON	32	29	0	61		340	18%
1995	EGIL	VISION	17	23	0	40		146	27%
1995	FORD		2	1	0	3		6	50%
1995	FORD	AEROSTAR	62	75	0	137		779	18%
1995	FORD	ASPIRE	37	50	0	87		425	20%
1995	FORD	BRONCO	15	15	0	30		187	16%
1995	FORD	CLUB WAGON	6	10	0	16		52	31%
1995	FORD	CONTOUR	99	154	0	253		1279	20%
1995	FORD	CROWN VICTORIA	62	79	0	141		809	17%
1995	FORD	E100	2	4	0	6		8	75%
1995	FORD	ECONOLINE	75	90	0	165		601	27%
1995	FORD	ESCORT	411	315	0	726		3044	24%
1995	FORD	EXPLORER	190	242	0	432		1654	26%
1995	FORD	F150	310	283	0	593		2626	23%
1995	FORD	F250	15	7	0	22		63	35%
1995	FORD	FAIRMONT	1	0	0	1		1	100%
1995	FORD	MUSTANG	162	122	0	284		1292	22%
1995	FORD	PROBE	49	71	0	120		597	20%
1995	FORD	RANGER	92	124	0	216		1206	18%
1995	FORD	TAURUS	390	366	0	756		3033	25%
1995	FORD	THUNDERBIRD	82	95	0	177		710	25%
1995	FORD	WINDSTAR	390	308	0	698		2166	32%
1995	GEO	METRO	26	37	0	63		433	15%
1995	GEO	PRIZM	75	92	0	167		659	25%
1995	GEO	TRACKER	10	20	0	30		253	12%
1995	GMC		0	1	0	1		2	50%
1995	GMC	C1500	11	5	0	16		61	26%
1995	GMC	C2500	1	0	0	1		6	17%
1995	GMC	G2500	3	4	0	7		25	28%
1995	GMC	JIMMY	79	60	0	139		575	24%
1995	GMC	K1500	19	21	0	40		168	24%
1995	GMC	RG7500	0	1	0	1		1	100%
1995	GMC	SAFARI	185	193	0	378		1210	31%
1995	GMC	SIERRA	86	93	0	179		874	20%
1995	GMC	SONOMA	35	39	0	74		410	18%
1995	GMC	VANDURA	311	240	0	551		1836	30%
1995	GMC	YUKON	26	28	0	54		251	22%
1995	HOND		4	8	0	12		20	60%
1995	HOND	ACCORD	370	257	0	627		1787	35%
1995	HOND	CIVIC	207	185	0	392		1517	26%
1995	HOND	ODYSSEY	55	51	0	106		229	46%
1995	HOND	PASSPORT	30	21	0	51		172	30%
1995	HOND	PRELUDE	11	10	0	21		95	22%
1995	HYUN	ACCENT	25	13	0	38		182	21%
1995	HYUN	ELANTRA	25	17	0	42		210	20%
1995	HYUN	SCOUPE	4	5	0	9		38	24%
1995	HYUN	SONATA	31	15	0	46		169	27%
1995	INFI	G20	33	32	0	65		180	36%
1995	INFI	J30	34	21	0	55		156	35%
1995	INFI	Q45	5	9	0	14		53	26%

**Appendix A3**  
**Vehicles RapidScreened**

<b>Year</b>	<b>Make</b>	<b>Model</b>	<b>RSD</b>	<b>Hybrid</b>	<b>LEI</b>	<b>Total Rapid Screen</b>		<b>Total Vehicles Tested</b>	<b>Rapid Screen %</b>
						<b>Total</b>	<b>Rapid Screen</b>		
1995	ISU	CAB	10	4	0	14		56	25%
1995	ISU	RODEO	44	45	0	89		315	28%
1995	ISU	TROOPER	20	9	0	29		110	26%
1995	JAGU	VDP	6	3	0	9		31	29%
1995	JAGU	XJ6	23	11	0	34		94	36%
1995	JAGU	XJR	1	0	0	1		9	11%
1995	JAGU	XJS	10	7	0	17		57	30%
1995	JEEP		2	0	0	2		4	50%
1995	JEEP	CHEROKEE	268	237	0	505		2560	20%
1995	JEEP	WRANGLER	35	77	0	112		915	12%
1995	KIA	SEPHIA	1	0	0	1		11	9%
1995	KIA	SPORTAGE	1	0	0	1		8	13%
1995	LEXS		1	0	0	1		2	50%
1995	LEXS	ES 300	55	28	0	83		226	37%
1995	LEXS	GS 300	12	2	0	14		35	40%
1995	LEXS	LS 400	28	11	0	39		105	37%
1995	LEXS	SC 300	4	1	0	5		36	14%
1995	LEXS	SC 400	13	5	0	18		40	45%
1995	LINC	CONTINENTAL	25	38	0	63		248	25%
1995	LINC	MARK VIII	17	18	0	35		134	26%
1995	LINC	TOWN CAR	123	112	0	235		725	32%
1995	LNDR	DISCOVERY	7	4	0	11		55	20%
1995	LNDR	RANGE ROVER	3	0	0	3		25	12%
1995	MAZD		0	1	0	1		2	50%
1995	MAZD	626	174	102	0	276		973	28%
1995	MAZD	929	1	3	0	4		13	31%
1995	MAZD	B2300	10	13	0	23		116	20%
1995	MAZD	B3000	2	2	0	4		19	21%
1995	MAZD	MILLENNIA	67	49	0	116		354	33%
1995	MAZD	MPV WAGON	4	1	0	5		47	11%
1995	MAZD	MX3	11	12	0	23		94	24%
1995	MAZD	MX5 MIATA	10	12	0	22		145	15%
1995	MAZD	MX-6	21	21	0	42		176	24%
1995	MAZD	PROTEGE	75	56	0	131		527	25%
1995	MAZD	RX7	1	0	0	1		4	25%
1995	MERC		2	0	0	2		4	50%
1995	MERC	COUGAR	89	73	0	162		627	26%
1995	MERC	GRAND MARQUIS	130	127	0	257		912	28%
1995	MERC	MYSTIQUE	65	67	0	132		587	22%
1995	MERC	SABLE	94	77	0	171		624	27%
1995	MERC	TRACER	69	57	0	126		453	28%
1995	MERC	VILLAGER	168	102	0	270		797	34%
1995	MERZ	220	16	6	0	22		79	28%
1995	MERZ	280	19	9	0	28		98	29%
1995	MERZ	320	23	22	0	45		193	23%
1995	MERZ	400	1	0	0	1		1	100%
1995	MERZ	420	3	2	0	5		27	19%
1995	MERZ	500	10	11	0	21		75	28%
1995	MITS	3000	18	13	0	31		126	25%
1995	MITS	DIAMANTE	11	10	0	21		56	38%

**Appendix A3**  
**Vehicles RapidScreened**

<b>Year</b>	<b>Make</b>	<b>Model</b>	<b>RSD</b>	<b>Hybrid</b>	<b>LEI</b>	<b>Total</b>		<b>Total Vehicles Tested</b>	<b>Rapid Screen %</b>
						<b>Total</b>	<b>Rapid Screen</b>		
1995	MITS	ECLIPSE	29	35	0	64		302	21%
1995	MITS	EXPO	2	4	0	6		21	29%
1995	MITS	GALANT	64	41	0	105		395	27%
1995	MITS	MIGHTY MAX	2	1	0	3		9	33%
1995	MITS	MIRAGE	18	12	0	30		154	19%
1995	MITS	MONTERO	22	13	0	35		121	29%
1995	NISS		1	1	0	2		3	67%
1995	NISS	200SX	14	10	0	24		124	19%
1995	NISS	240SX	14	10	0	24		105	23%
1995	NISS	300ZX	1	0	0	1		14	7%
1995	NISS	720	1	0	0	1		1	100%
1995	NISS	ALTIMA	172	131	0	303		1098	28%
1995	NISS	KING CAB	10	22	0	32		116	28%
1995	NISS	MAXIMA	219	141	0	360		993	36%
1995	NISS	PATHFINDER	66	35	0	101		356	28%
1995	NISS	QUEST	53	26	0	79		207	38%
1995	NISS	SENTRA	42	48	0	90		311	29%
1995	NISS	SHORT BED	1	0	0	1		1	100%
1995	NISS	STANDARD	10	8	0	18		108	17%
1995	OLDS	98	20	22	0	42		140	30%
1995	OLDS	ACHIEVA	46	39	0	85		322	26%
1995	OLDS	AURORA	37	47	0	84		432	19%
1995	OLDS	CIERA	128	140	0	268		1127	24%
1995	OLDS	CUTLASS	160	104	0	264		873	30%
1995	OLDS	DELTA 88	103	81	0	184		614	30%
1995	OLDS	LSS	4	0	0	4		4	100%
1995	OLDS	SILHOUETTE	18	18	0	36		115	31%
1995	PLYM	ACCLAIM	9	18	0	27		170	16%
1995	PLYM	NEON	148	144	0	292		1189	25%
1995	PLYM	VOYAGER	170	164	0	334		1220	27%
1995	PONT		2	0	0	2		5	40%
1995	PONT	BONNEVILLE	135	114	0	249		804	31%
1995	PONT	FIREBIRD	37	34	0	71		439	16%
1995	PONT	GRAND AM	299	273	0	572		2119	27%
1995	PONT	GRAND PRIX	196	165	0	361		1262	29%
1995	PONT	SUNFIRE	49	30	0	79		439	18%
1995	PONT	TRANS SPORT	38	30	0	68		222	31%
1995	PORS		0	2	0	2		3	67%
1995	PORS	911	1	3	0	4		36	11%
1995	PORS	968	1	0	0	1		2	50%
1995	SAA		1	0	0	1		2	50%
1995	SAA	900	20	11	0	31		119	26%
1995	SAA	9000	6	5	0	11		23	48%
1995	STRN	SC	102	95	0	197		704	28%
1995	STRN	SL	268	229	0	497		2053	24%
1995	STRN	SW	19	14	0	33		128	26%
1995	SUBA		1	2	0	3		5	60%
1995	SUBA	IMPREZA	14	7	0	21		92	23%
1995	SUBA	LEGACY	35	15	0	50		241	21%
1995	SUBA	SVX	1	0	0	1		9	11%

**Appendix A3**  
**Vehicles RapidScreened**

<b>Year</b>	<b>Make</b>	<b>Model</b>	<b>RSD</b>	<b>Hybrid</b>	<b>LEI</b>	<b>Total Rapid Screen</b>		<b>Total Vehicles Tested</b>	<b>Rapid Screen %</b>
						<b>Total</b>	<b>Rapid Screen</b>		
1995	SUZI	ESTEEM	2	5	0	7	36	19%	
1995	SUZI	SIDEKICK	9	15	0	24	163	15%	
1995	TOYT		1	0	0	1	2	50%	
1995	TOYT	1/2 TON	0	1	0	1	7	14%	
1995	TOYT	4RUNNER	49	37	0	86	306	28%	
1995	TOYT	AVALON	71	45	0	116	363	32%	
1995	TOYT	CAMRY	423	290	0	713	1996	36%	
1995	TOYT	CELICA	45	32	0	77	242	32%	
1995	TOYT	COROLLA	139	146	0	285	1090	26%	
1995	TOYT	DELUXE	7	1	0	8	18	44%	
1995	TOYT	LAND CRUISER	14	7	0	21	58	36%	
1995	TOYT	PASEO	3	0	0	3	23	13%	
1995	TOYT	PREVIA	15	13	0	28	82	34%	
1995	TOYT	SHORT BED	1	2	0	3	13	23%	
1995	TOYT	SUPRA	1	0	0	1	19	5%	
1995	TOYT	T100	9	8	0	17	79	22%	
1995	TOYT	TACOMA	20	22	0	42	126	33%	
1995	TOYT	TERCEL	53	36	0	89	319	28%	
1995	TOYT	XTRACAB	1	0	0	1	7	14%	
1995	VOLK	CABRIO	6	8	0	14	65	22%	
1995	VOLK	GOLF	9	15	0	24	80	30%	
1995	VOLK	GTI	0	1	0	1	2	50%	
1995	VOLK	JETTA	30	38	0	68	278	24%	
1995	VOLK	PASSAT	14	7	0	21	80	26%	
1995	VOLV		1	1	0	2	3	67%	
1995	VOLV	70	6	2	0	8	8	100%	
1995	VOLV	850	116	67	0	183	474	39%	
1995	VOLV	940	15	14	0	29	92	32%	
1995	VOLV	960	18	8	0	26	79	33%	
1994	ACUR	INTEGRA	2	1	0	3	101	3%	
1994	ACUR	LEGEND	2	1	0	3	49	6%	
1994	ACUR	VIGOR	2	2	0	4	14	29%	
1994	AUDI	CABRIOLET	1	1	0	2	7	29%	
1994	BMW	325I	0	1	0	1	69	1%	
1994	BUIC	CENTURY	4	0	0	4	194	2%	
1994	BUIC	LESABRE	8	1	0	9	193	5%	
1994	BUIC	PARK AVENUE	5	1	0	6	90	7%	
1994	BUIC	REGAL	5	1	0	6	93	6%	
1994	BUIC	ROADMASTER	2	1	0	3	42	7%	
1994	BUIC	SKYLARK	1	2	0	3	108	3%	
1994	CADI	DEVILLE	3	7	0	10	187	5%	
1994	CADI	ELDORADO	1	0	0	1	39	3%	
1994	CADI	SEVILLE	1	1	0	2	83	2%	
1994	CHEV		1	0	0	1	3	33%	
1994	CHEV	ASTRO VAN	2	1	0	3	134	2%	
1994	CHEV	BERETTA	6	0	0	6	147	4%	
1994	CHEV	BLAZER	9	2	0	11	276	4%	
1994	CHEV	C1500	5	4	0	9	269	3%	
1994	CHEV	CAMARO	1	2	0	3	217	1%	
1994	CHEV	CAPRICE	0	1	0	1	119	1%	

**Appendix A3**  
**Vehicles RapidScreened**

<b>Year</b>	<b>Make</b>	<b>Model</b>	<b>RSD</b>	<b>Hybrid</b>	<b>LEI</b>	<b>Total Rapid Screen</b>		<b>Total Vehicles Tested</b>	<b>Rapid Screen %</b>
						<b>Total</b>	<b>Rapid Screen</b>		
1994	CHEV	CAVALIER	8	5	0	13		585	2%
1994	CHEV	CORSICA	4	1	0	5		362	1%
1994	CHEV	CORVETTE	1	0	0	1		38	3%
1994	CHEV	K1500	5	3	0	8		279	3%
1994	CHEV	LUMINA	6	1	0	7		214	3%
1994	CHEV	S10	2	1	0	3		566	1%
1994	CHEV	SUBURBAN	1	5	0	6		105	6%
1994	CHRY	CONCORDE	5	2	0	7		121	6%
1994	CHRY	LEBARON	0	2	0	2		161	1%
1994	CHRY	NEW YORKER	1	0	0	1		59	2%
1994	CHRY	TOWN & COUNTRY	2	2	0	4		79	5%
1994	DODG		1	0	0	1		2	50%
1994	DODG	B250	0	1	0	1		81	1%
1994	DODG	CARAVAN	8	10	0	18		500	4%
1994	DODG	INTREPID	4	4	0	8		314	3%
1994	DODG	RAM 1500	1	2	0	3		260	1%
1994	DODG	SHADOW	0	1	0	1		290	0%
1994	DODG	SPIRIT	2	1	0	3		171	2%
1994	EGIL	TALON	2	0	0	2		70	3%
1994	EGIL	VISION	1	0	0	1		37	3%
1994	FORD	AEROSTAR	1	1	0	2		147	1%
1994	FORD	BRONCO	2	2	0	4		51	8%
1994	FORD	CROWN VICTORIA	2	0	0	2		121	2%
1994	FORD	ECONOLINE	2	2	0	4		124	3%
1994	FORD	ESCORT	5	4	0	9		513	2%
1994	FORD	EXPLORER	5	9	0	14		575	2%
1994	FORD	F150	6	6	0	12		622	2%
1994	FORD	F250	1	0	0	1		4	25%
1994	FORD	MUSTANG	2	2	0	4		236	2%
1994	FORD	PROBE	2	1	0	3		251	1%
1994	FORD	RANGER	6	4	0	10		635	2%
1994	FORD	TAURUS	10	10	1	21		499	4%
1994	FORD	TEMPO	5	5	0	10		391	3%
1994	FORD	THUNDERBIRD	1	3	0	4		153	3%
1994	GEO	METRO	1	0	0	1		103	1%
1994	GEO	PRIZM	4	4	0	8		145	6%
1994	GMC	C1500	0	1	0	1		13	8%
1994	GMC	JIMMY	2	3	0	5		156	3%
1994	GMC	K1500	1	2	0	3		31	10%
1994	GMC	SAFARI	7	3	0	10		185	5%
1994	GMC	SIERRA	2	3	0	5		252	2%
1994	GMC	SONOMA	2	0	0	2		100	2%
1994	GMC	VANDURA	2	0	0	2		109	2%
1994	HOND	ACCORD	20	16	0	36		371	10%
1994	HOND	CIVIC	3	0	0	3		218	1%
1994	HOND	PASSPORT	1	0	0	1		14	7%
1994	HOND	PRELUDE	1	0	0	1		28	4%
1994	HYUN	EXCEL	0	1	0	1		72	1%
1994	HYUN	SONATA	1	0	0	1		8	13%
1994	INFI	Q45	0	1	0	1		32	3%

**Appendix A3**  
**Vehicles RapidScreened**

<b>Year</b>	<b>Make</b>	<b>Model</b>	<b>RSD</b>	<b>Hybrid</b>	<b>LEI</b>	<b>Total Rapid Screen</b>		<b>Total Vehicles Tested</b>	<b>Rapid Screen %</b>
						<b>Total</b>	<b>Rapid Screen</b>		
1994	ISU	RODEO	0	1	0	1	1	47	2%
1994	JAGU	XJ6	0	1	0	1	1	16	6%
1994	JEEP	CHEROKEE	8	5	0	13	640	2%	
1994	LEXS	ES 300	4	1	0	5	57	9%	
1994	LEXS	GS 300	1	0	0	1	13	8%	
1994	LEXS	LS 400	1	0	0	1	18	6%	
1994	LEXS	SC 400	2	0	0	2	7	29%	
1994	LINC	MARK VIII	1	0	0	1	56	2%	
1994	LINC	TOWN CAR	0	4	0	4	157	3%	
1994	MAZD	626	3	0	0	3	177	2%	
1994	MAZD	B2300	0	1	0	1	42	2%	
1994	MAZD	B4000	2	0	0	2	30	7%	
1994	MAZD	MPV WAGON	1	0	0	1	20	5%	
1994	MAZD	MX3	0	1	0	1	39	3%	
1994	MAZD	MX-6	1	0	0	1	42	2%	
1994	MAZD	PROTEGE	1	1	0	2	143	1%	
1994	MERC	COUGAR	2	0	0	2	144	1%	
1994	MERC	GRAND MARQUIS	4	2	0	6	116	5%	
1994	MERC	SABLE	13	2	0	15	140	11%	
1994	MERC	TRACER	1	0	0	1	71	1%	
1994	MERC	VILLAGER	4	2	0	6	83	7%	
1994	MERZ	220	1	0	1	2	9	22%	
1994	MERZ	280	0	1	0	1	15	7%	
1994	MERZ	420	1	0	0	1	6	17%	
1994	MERZ	500	1	0	0	1	7	14%	
1994	MITS	EXPO	1	0	0	1	8	13%	
1994	MITS	GALANT	2	1	0	3	77	4%	
1994	NISS	ALTIMA	5	1	0	6	233	3%	
1994	NISS	MAXIMA	4	2	0	6	91	7%	
1994	NISS	PATHFINDER	1	0	0	1	45	2%	
1994	NISS	QUEST	1	2	0	3	28	11%	
1994	NISS	SENTRA	3	4	0	7	161	4%	
1994	OLDS	98	0	2	0	2	33	6%	
1994	OLDS	BRAVADA	0	1	0	1	34	3%	
1994	OLDS	CUTLASS	3	4	0	7	403	2%	
1994	OLDS	DELTA 88	2	1	0	3	136	2%	
1994	PLYM	ACCLAIM	2	0	0	2	83	2%	
1994	PLYM	VOYAGER	5	4	0	9	316	3%	
1994	PONT	BONNEVILLE	2	1	0	3	147	2%	
1994	PONT	GRAND AM	6	2	0	8	453	2%	
1994	PONT	GRAND PRIX	3	3	0	6	243	2%	
1994	PONT	SUNBIRD	1	0	0	1	181	1%	
1994	PONT	TRANS SPORT	0	1	0	1	42	2%	
1994	STRN	SC	1	4	0	5	148	3%	
1994	STRN	SL	6	4	0	10	340	3%	
1994	STRN	SW	1	1	0	2	34	6%	
1994	SUBA	LEGACY	1	0	0	1	28	4%	
1994	TOYT	CAMRY	11	10	2	23	330	7%	
1994	TOYT	COROLLA	3	1	0	4	169	2%	
1994	TOYT	DELUXE	1	1	0	2	28	7%	

**Appendix A3**  
**Vehicles RapidScreened**

<b>Year</b>	<b>Make</b>	<b>Model</b>	<b>RSD</b>	<b>Hybrid</b>	<b>LEI</b>	<b>Total Rapid Screen</b>	<b>Total Vehicles Tested</b>	<b>Rapid Screen %</b>
1994	TOYT	LAND CRUISER	2	0	0	2	11	18%
1994	TOYT	LONG BED	1	0	0	1	14	7%
1994	TOYT	PREVIA	1	0	0	1	6	17%
1994	TOYT	TERCEL	2	0	0	2	103	2%
1994	VOLK	JETTA	2	0	0	2	38	5%
1994	VOLV	850	1	2	0	3	75	4%
1993	ACUR	INTEGRA	21	18	0	39	197	20%
1993	ACUR	LEGEND	28	18	0	46	178	26%
1993	ACUR	VIGOR	6	8	0	14	62	23%
1993	AUDI	100	8	4	0	12	41	29%
1993	AUDI	90	2	3	0	5	60	8%
1993	BMW		1	1	0	2	2	100%
1993	BMW	318I	11	3	0	14	55	25%
1993	BMW	325I	12	14	0	26	120	22%
1993	BMW	525I	15	8	0	23	65	35%
1993	BMW	740I	9	5	0	14	33	42%
1993	BMW	750IL	1	0	0	1	3	33%
1993	BUIC	CENTURY	67	79	0	146	816	18%
1993	BUIC	LESABRE	90	81	0	171	750	23%
1993	BUIC	PARK AVENUE	37	41	0	78	288	27%
1993	BUIC	REGAL	77	63	0	140	497	28%
1993	BUIC	RIVIERA	8	4	0	12	43	28%
1993	BUIC	ROADMASTER	31	20	0	51	242	21%
1993	BUIC	SKYLARK	43	41	0	84	420	20%
1993	CADI	60 SPECIAL	3	0	0	3	33	9%
1993	CADI	ALLANTE	2	3	0	5	41	12%
1993	CADI	DEVILLE	52	0	0	52	745	7%
1993	CADI	ELDORADO	15	13	0	28	121	23%
1993	CADI	FLEETWOOD	14	0	0	14	130	11%
1993	CADI	SEVILLE	33	29	0	62	246	25%
1993	CHEV		3	2	0	5	9	56%
1993	CHEV	ASTRO VAN	32	49	0	81	625	13%
1993	CHEV	BERETTA	16	0	0	16	242	7%
1993	CHEV	BLAZER	80	85	0	165	780	21%
1993	CHEV	C10	1	2	0	3	3	100%
1993	CHEV	C1500	35	77	0	112	868	13%
1993	CHEV	C2500	1	1	0	2	28	7%
1993	CHEV	CAMARO	18	12	0	30	256	12%
1993	CHEV	CAPRICE	37	8	0	45	451	10%
1993	CHEV	CAVALIER	136	184	0	320	1937	17%
1993	CHEV	CORSICA	67	98	0	165	1014	16%
1993	CHEV	CORVETTE	12	9	0	21	178	12%
1993	CHEV	G10	2	0	0	2	24	8%
1993	CHEV	G20	18	24	0	42	238	18%
1993	CHEV	G30	3	0	0	3	39	8%
1993	CHEV	K10	2	1	0	3	3	100%
1993	CHEV	K1500	22	51	0	73	605	12%
1993	CHEV	K2500	2	0	0	2	57	4%
1993	CHEV	LUMINA	172	196	0	368	1781	21%
1993	CHEV	S10	50	62	0	112	929	12%

**Appendix A3**  
**Vehicles RapidScreened**

<b>Year</b>	<b>Make</b>	<b>Model</b>	<b>RSD</b>	<b>Hybrid</b>	<b>LEI</b>	<b>Total</b>		<b>Total Vehicles Tested</b>	<b>Rapid Screen %</b>
						<b>Total Rapid Screen</b>	<b>Vehicles Tested</b>		
1993	CHEV	SUBURBAN	11	28	0	39	268	15%	
1993	CHRY	CONCORDE	20	21	0	41	293	14%	
1993	CHRY	IMPERIAL	2	3	0	5	23	22%	
1993	CHRY	LEBARON	49	62	0	111	540	21%	
1993	CHRY	NEW YORKER	26	39	0	65	348	19%	
1993	CHRY	TOWN & COUNTRY	13	20	0	33	201	16%	
1993	DODG		2	0	0	2	3	67%	
1993	DODG	B250	6	3	0	9	102	9%	
1993	DODG	CARAVAN	137	219	0	356	1943	18%	
1993	DODG	COLT	6	1	0	7	55	13%	
1993	DODG	D-150	2	2	0	4	79	5%	
1993	DODG	D-250	1	0	0	1	12	8%	
1993	DODG	DAKOTA	24	13	0	37	724	5%	
1993	DODG	DAYTONA	3	6	0	9	70	13%	
1993	DODG	DYNASTY	46	70	0	116	510	23%	
1993	DODG	INTREPID	30	17	0	47	553	8%	
1993	DODG	RAM 50	8	3	0	11	13	85%	
1993	DODG	RAM VAN	0	1	0	1	1	100%	
1993	DODG	RAM WAGON	1	0	0	1	1	100%	
1993	DODG	RAMCHARGER	1	0	0	1	15	7%	
1993	DODG	SHADOW	49	17	0	66	976	7%	
1993	DODG	SPIRIT	21	20	0	41	498	8%	
1993	DODG	STEALTH	12	18	0	30	133	23%	
1993	EGIL	SUMMIT	4	4	0	8	92	9%	
1993	EGIL	TALON	9	13	0	22	221	10%	
1993	EGIL	VISION	10	8	0	18	154	12%	
1993	FORD		0	2	0	2	4	50%	
1993	FORD	AEROSTAR	59	108	0	167	1161	14%	
1993	FORD	BRONCO	17	17	0	34	165	21%	
1993	FORD	CLUB WAGON	7	8	0	15	55	27%	
1993	FORD	CROWN VICTORIA	33	33	0	66	566	12%	
1993	FORD	ECONOLINE	59	68	0	127	603	21%	
1993	FORD	ESCORT	189	285	0	474	2641	18%	
1993	FORD	EXPLORER	93	179	0	272	1811	15%	
1993	FORD	F150	175	219	0	394	2174	18%	
1993	FORD	F250	6	7	0	13	40	33%	
1993	FORD	FESTIVA	8	11	0	19	219	9%	
1993	FORD	MUSTANG	30	21	0	51	489	10%	
1993	FORD	PROBE	50	37	0	87	751	12%	
1993	FORD	RANGER	88	144	0	232	1932	12%	
1993	FORD	TAURUS	203	291	0	494	2586	19%	
1993	FORD	TEMPO	134	188	0	322	2068	16%	
1993	FORD	THUNDERBIRD	36	68	0	104	661	16%	
1993	GEO	METRO	7	12	0	19	259	7%	
1993	GEO	PRIZM	42	48	0	90	429	21%	
1993	GEO	STORM	15	12	0	27	162	17%	
1993	GEO	TRACKER	4	8	0	12	166	7%	
1993	GMC	C1500	5	4	0	9	57	16%	
1993	GMC	JIMMY	42	34	0	76	387	20%	
1993	GMC	K1500	4	11	0	15	113	13%	

**Appendix A3**  
**Vehicles RapidScreened**

<b>Year</b>	<b>Make</b>	<b>Model</b>	<b>RSD</b>	<b>Hybrid</b>	<b>LEI</b>	<b>Total</b>		<b>Total Vehicles Tested</b>	<b>Rapid Screen %</b>
						<b>Total</b>	<b>Rapid Screen</b>		
1993	GMC	SAFARI	28	27	0	55	442	12%	
1993	GMC	SIERRA	28	65	0	93	746	12%	
1993	GMC	SONOMA	49	49	0	98	488	20%	
1993	GMC	VANDURA	43	56	0	99	542	18%	
1993	GMC	YUKON	1	2	0	3	34	9%	
1993	HOND		0	2	0	2	4	50%	
1993	HOND	ACCORD	262	196	0	458	1489	31%	
1993	HOND	CIVIC	107	113	0	220	973	23%	
1993	HOND	PRELUDE	11	8	0	19	126	15%	
1993	HYUN		1	0	0	1	2	50%	
1993	HYUN	ELANTRA	7	0	0	7	84	8%	
1993	HYUN	EXCEL	8	0	0	8	103	8%	
1993	HYUN	SCOUPÉ	2	0	0	2	14	14%	
1993	HYUN	SONATA	3	0	0	3	77	4%	
1993	INFI	G20	20	34	0	54	214	25%	
1993	INFI	J30	49	38	0	87	266	33%	
1993	INFI	Q45	10	7	0	17	50	34%	
1993	ISU	AMIGO	0	1	0	1	19	5%	
1993	ISU	CAB	3	0	0	3	124	2%	
1993	ISU	RODEO	11	12	0	23	136	17%	
1993	ISU	TROOPER	5	15	0	20	76	26%	
1993	JAGU	XJ6	10	1	0	11	72	15%	
1993	JAGU	XJS	4	0	0	4	16	25%	
1993	JEEP	CHEROKEE	156	171	0	327	1986	16%	
1993	JEEP	WAGONEER	3	0	0	3	51	6%	
1993	JEEP	WRANGLER	9	23	0	32	319	10%	
1993	LEXS	ES 300	54	32	0	86	220	39%	
1993	LEXS	GS 300	19	7	0	26	77	34%	
1993	LEXS	LS 400	20	12	0	32	93	34%	
1993	LEXS	SC 300	7	9	0	16	39	41%	
1993	LEXS	SC 400	11	4	0	15	62	24%	
1993	LINC	CONTINENTAL	24	19	0	43	153	28%	
1993	LINC	MARK VIII	21	14	0	35	159	22%	
1993	LINC	TOWN CAR	61	87	0	148	672	22%	
1993	LNDR	RANGE ROVER	4	0	0	4	19	21%	
1993	MAZD	323	0	2	0	2	16	13%	
1993	MAZD	626	48	54	0	102	523	20%	
1993	MAZD	929	8	6	0	14	44	32%	
1993	MAZD	B2200	2	9	0	11	86	13%	
1993	MAZD	B2600	3	2	0	5	47	11%	
1993	MAZD	MPV WAGON	4	10	0	14	86	16%	
1993	MAZD	MX3	15	11	0	26	218	12%	
1993	MAZD	MX5 MIATA	13	15	0	28	126	22%	
1993	MAZD	MX-6	27	21	0	48	289	17%	
1993	MAZD	NAVAJO	2	0	0	2	17	12%	
1993	MAZD	PROTEGE	47	60	0	107	527	20%	
1993	MAZD	RX7	1	0	0	1	53	2%	
1993	MERC	CAPRI	4	4	0	8	65	12%	
1993	MERC	COUGAR	49	65	0	114	595	19%	
1993	MERC	GRAND MARQUIS	61	74	0	135	608	22%	

**Appendix A3**  
**Vehicles RapidScreened**

<b>Year</b>	<b>Make</b>	<b>Model</b>	<b>RSD</b>	<b>Hybrid</b>	<b>LEI</b>	<b>Total Rapid Screen</b>		<b>Total Vehicles Tested</b>	<b>Rapid Screen %</b>
						<b>Total</b>	<b>Rapid Screen</b>		
1993	MERC	SABLE	63	84	0	147		667	22%
1993	MERC	TOPAZ	42	50	0	92		572	16%
1993	MERC	TRACER	48	44	0	92		468	20%
1993	MERC	VILLAGER	116	117	0	233		799	29%
1993	MERZ		2	3	0	5		7	71%
1993	MERZ	190	9	6	0	15		106	14%
1993	MERZ	300	7	11	0	18		80	23%
1993	MERZ	320	1	1	0	2		2	100%
1993	MERZ	400	5	0	0	5		26	19%
1993	MERZ	420	2	0	0	2		2	100%
1993	MERZ	500	3	0	0	3		28	11%
1993	MITS		0	1	0	1		2	50%
1993	MITS	3000	9	9	0	18		93	19%
1993	MITS	DIAMANTE	18	10	0	28		118	24%
1993	MITS	ECLIPSE	13	16	0	29		220	13%
1993	MITS	EXPO	9	0	0	9		44	20%
1993	MITS	GALANT	3	0	0	3		33	9%
1993	MITS	MIRAGE	2	6	0	8		39	21%
1993	MITS	MONTERO	1	0	0	1		23	4%
1993	MITS	PRECIS	1	0	0	1		2	50%
1993	NISS	240SX	11	9	0	20		118	17%
1993	NISS	300ZX	7	5	0	12		62	19%
1993	NISS	720	0	2	0	2		2	100%
1993	NISS	ALTIMA	92	104	0	196		977	20%
1993	NISS	KING CAB	3	9	0	12		61	20%
1993	NISS	LONG BED	0	1	0	1		2	50%
1993	NISS	MAXIMA	68	67	0	135		475	28%
1993	NISS	NX	2	3	0	5		48	10%
1993	NISS	PATHFINDER	8	14	0	22		103	21%
1993	NISS	QUEST	24	23	0	47		146	32%
1993	NISS	SENTRA	53	84	0	137		554	25%
1993	NISS	SHORT BED	3	16	0	19		140	14%
1993	OLDS		1	0	0	1		2	50%
1993	OLDS	98	21	12	0	33		106	31%
1993	OLDS	ACHIEVA	23	15	0	38		182	21%
1993	OLDS	BRAVADA	1	0	0	1		49	2%
1993	OLDS	CUTLASS	118	181	0	299		1699	18%
1993	OLDS	DELTA 88	65	45	0	110		385	29%
1993	OLDS	SILHOUETTE	2	6	0	8		30	27%
1993	PLYM		1	0	0	1		2	50%
1993	PLYM	ACCLAIM	20	24	0	44		416	11%
1993	PLYM	COLT	2	2	0	4		68	6%
1993	PLYM	LASER	14	9	0	23		131	18%
1993	PLYM	SUNDANCE	25	7	0	32		532	6%
1993	PLYM	VOYAGER	106	122	0	228		1249	18%
1993	PONT		3	2	0	5		9	56%
1993	PONT	BONNEVILLE	154	112	0	266		908	29%
1993	PONT	FIREBIRD	11	5	0	16		119	13%
1993	PONT	GRAND AM	165	145	0	310		1513	20%
1993	PONT	GRAND PRIX	44	69	0	113		657	17%

**Appendix A3**  
**Vehicles RapidScreened**

<b>Year</b>	<b>Make</b>	<b>Model</b>	<b>RSD</b>	<b>Hybrid</b>	<b>LEI</b>	<b>Total Rapid Screen</b>		<b>Total Vehicles Tested</b>	<b>Rapid Screen %</b>
						<b>Total</b>	<b>Rapid Screen</b>		
1993	PONT	LEMANS	0	1	0	1	1	22	5%
1993	PONT	SUNBIRD	28	54	0	82	543	15%	
1993	PONT	TRANS SPORT	20	14	0	34	119	29%	
1993	PORS		0	1	0	1	2	50%	
1993	PORS	911	2	0	0	2	11	18%	
1993	SAA	900	8	5	0	13	37	35%	
1993	SAA	9000	3	5	0	8	33	24%	
1993	SATR		1	0	0	1	2	50%	
1993	STRN	SC	25	54	0	79	563	14%	
1993	STRN	SL	99	166	0	265	1628	16%	
1993	STRN	SW	7	15	0	22	124	18%	
1993	SUBA		2	2	0	4	6	67%	
1993	SUBA	IMPREZA	8	9	0	17	111	15%	
1993	SUBA	LEGACY	23	22	0	45	185	24%	
1993	SUBA	LOYALE	1	2	0	3	28	11%	
1993	SUZI	SIDEKICK	3	13	0	16	77	21%	
1993	SUZI	SWIFT	1	2	0	3	17	18%	
1993	TOYT		3	0	0	3	6	50%	
1993	TOYT	4RUNNER	13	13	0	26	102	25%	
1993	TOYT	CAMRY	310	220	0	530	1652	32%	
1993	TOYT	CELICA	18	20	0	38	194	20%	
1993	TOYT	COROLLA	90	138	0	228	1058	22%	
1993	TOYT	DELUXE	9	10	0	19	73	26%	
1993	TOYT	LAND CRUISER	5	0	0	5	33	15%	
1993	TOYT	MR2	3	2	0	5	33	15%	
1993	TOYT	PASEO	4	9	0	13	100	13%	
1993	TOYT	PREVIA	8	14	0	22	122	18%	
1993	TOYT	SHORT BED	7	6	0	13	92	14%	
1993	TOYT	SR5	1	2	0	3	9	33%	
1993	TOYT	SUPRA	1	0	0	1	10	10%	
1993	TOYT	T100	3	5	0	8	35	23%	
1993	TOYT	TERCEL	19	31	0	50	277	18%	
1993	TOYT	XTRACAB	1	10	0	11	98	11%	
1993	VOLK	CABRIOLET	3	3	0	6	19	32%	
1993	VOLK	CORRADO	1	0	0	1	18	6%	
1993	VOLK	EUROVAN	4	0	0	4	30	13%	
1993	VOLK	FOX	0	6	0	6	53	11%	
1993	VOLK	PASSAT	6	10	0	16	47	34%	
1993	VOLV		1	0	0	1	2	50%	
1993	VOLV	240	10	9	0	19	91	21%	
1993	VOLV	850	38	24	0	62	187	33%	
1993	VOLV	940	20	19	0	39	139	28%	
1993	VOLV	960	11	7	0	18	51	35%	
1992	ACUR	INTEGRA	2	1	0	3	58	5%	
1992	ACUR	LEGEND	1	1	0	2	50	4%	
1992	ACUR	VIGOR	1	0	0	1	26	4%	
1992	BMW	325I	1	1	0	2	50	4%	
1992	BMW	525I	0	1	0	1	23	4%	
1992	BUIC	CENTURY	0	1	0	1	203	0%	
1992	BUIC	LESABRE	3	0	0	3	219	1%	

**Appendix A3**  
**Vehicles RapidScreened**

<b>Year</b>	<b>Make</b>	<b>Model</b>	<b>RSD</b>	<b>Hybrid</b>	<b>LEI</b>	<b>Total Rapid Screen</b>	<b>Total Vehicles Tested</b>	<b>Rapid Screen %</b>
1992	BUIC	PARK AVENUE	2	0	0	2	85	2%
1992	BUIC	REGAL	0	1	0	1	112	1%
1992	BUIC	ROADMASTER	1	0	0	1	73	1%
1992	BUIC	SKYLARK	1	0	0	1	109	1%
1992	CADI	DEVILLE	2	0	0	2	180	1%
1992	CADI	ELDORADO	1	1	0	2	44	5%
1992	CADI	SEVILLE	0	3	0	3	61	5%
1992	CHEV	ASTRO VAN	0	2	0	2	156	1%
1992	CHEV	BLAZER	2	0	0	2	199	1%
1992	CHEV	C1500	1	0	0	1	206	0%
1992	CHEV	CAMARO	1	0	0	1	166	1%
1992	CHEV	CAPRICE	1	0	0	1	66	2%
1992	CHEV	CAVALIER	3	5	0	8	594	1%
1992	CHEV	CORSICA	2	0	0	2	251	1%
1992	CHEV	K1500	0	1	0	1	154	1%
1992	CHEV	K2500	1	0	0	1	16	6%
1992	CHEV	LUMINA	4	3	0	7	500	1%
1992	CHRY	LEBARON	0	2	0	2	185	1%
1992	CHRY	NEW YORKER	0	1	0	1	93	1%
1992	DODG	B250	0	1	0	1	59	2%
1992	DODG	D-150	1	0	0	1	35	3%
1992	DODG	DAKOTA	0	1	0	1	290	0%
1992	DODG	SHADOW	0	2	0	2	239	1%
1992	FORD	AEROSTAR	1	1	0	2	131	2%
1992	FORD	CLUB WAGON	1	0	0	1	18	6%
1992	FORD	CROWN VICTORIA	1	0	0	1	193	1%
1992	FORD	ECONOLINE	1	0	0	1	122	1%
1992	FORD	ESCORT	2	2	0	4	279	1%
1992	FORD	EXPLORER	1	3	0	4	436	1%
1992	FORD	F150	4	7	0	11	489	2%
1992	FORD	MUSTANG	1	0	0	1	129	1%
1992	FORD	PROBE	0	3	0	3	83	4%
1992	FORD	RANGER	1	1	0	2	343	1%
1992	FORD	TAURUS	5	2	0	7	503	1%
1992	FORD	TEMPO	1	1	1	3	437	1%
1992	GEO	METRO	1	0	0	1	140	1%
1992	GEO	PRIZM	1	0	0	1	160	1%
1992	GEO	STORM	0	1	0	1	81	1%
1992	GMC	JIMMY	2	1	0	3	75	4%
1992	GMC	SAFARI	1	2	0	3	183	2%
1992	GMC	SIERRA	1	0	0	1	190	1%
1992	GMC	VANDURA	3	2	0	5	174	3%
1992	HOND	ACCORD	9	10	0	19	434	4%
1992	HOND	CIVIC	1	6	0	7	183	4%
1992	INFI	G20	0	1	0	1	45	2%
1992	INFI	Q45	2	0	0	2	33	6%
1992	JEEP	CHEROKEE	4	0	0	4	173	2%
1992	JEEP	WRANGLER	0	1	0	1	55	2%
1992	LEXS	SC 300	1	0	0	1	10	10%
1992	LEXS	SC 400	0	1	0	1	22	5%

**Appendix A3**  
**Vehicles RapidScreened**

Year	Make	Model	RSD	Hybrid	LEI	Total Rapid Screen	Total Vehicles Tested	Total Rapid Screen %
1992	LINC	MARK VII	0	1	0	1	5	20%
1992	LINC	TOWN CAR	1	3	0	4	146	3%
1992	MAZD	323	1	0	0	1	14	7%
1992	MAZD	626	1	0	0	1	35	3%
1992	MAZD	929	1	1	0	2	39	5%
1992	MAZD	MX5 MIATA	1	0	0	1	24	4%
1992	MAZD	MX6	0	1	0	1	10	10%
1992	MAZD	PROTEGE	0	1	0	1	103	1%
1992	MERC	COUGAR	0	1	0	1	97	1%
1992	MERC	GRAND MARQUIS	2	1	0	3	185	2%
1992	MERC	SABLE	2	1	0	3	218	1%
1992	MERC	TOPAZ	0	2	0	2	154	1%
1992	MERZ	190	0	1	0	1	22	5%
1992	MERZ	300	1	0	0	1	25	4%
1992	mits	DIAMANTE	1	0	0	1	39	3%
1992	mits	ECLIPSE	1	0	0	1	93	1%
1992	mits	GALANT	1	0	0	1	29	3%
1992	NISS	300ZX	1	0	0	1	10	10%
1992	NISS	MAXIMA	2	1	0	3	96	3%
1992	NISS	SENTRA	1	1	0	2	124	2%
1992	NISS	STANZA	0	1	0	1	62	2%
1992	OLDS	98	1	0	0	1	60	2%
1992	OLDS	CUTLASS	3	0	0	3	368	1%
1992	OLDS	DELTA 88	3	0	0	3	189	2%
1992	OLDS	SILHOUETTE	0	1	0	1	14	7%
1992	PLYM	VOYAGER	3	3	0	6	318	2%
1992	PONT	BONNEVILLE	2	0	0	2	254	1%
1992	PONT	GRAND AM	2	0	0	2	471	0%
1992	PONT	GRAND PRIX	2	1	0	3	211	1%
1992	PONT	SUNBIRD	4	0	0	4	161	2%
1992	PONT	TRANS SPORT	1	0	0	1	33	3%
1992	SAA	900	0	0	1	1	12	8%
1992	SAA	9000	0	1	0	1	10	10%
1992	STRN	SC	1	0	0	1	75	1%
1992	STRN	SL	1	0	0	1	312	0%
1992	SUBA	LEGACY	1	2	0	3	54	6%
1992	TOYT	4RUNNER	1	0	0	1	18	6%
1992	TOYT	CAMRY	10	10	0	20	342	6%
1992	TOYT	CELICA	4	2	0	6	91	7%
1992	TOYT	COROLLA	3	8	1	12	250	5%
1992	TOYT	PASEO	0	1	0	1	77	1%
1992	TOYT	PREVIA	1	2	0	3	41	7%
1992	TOYT	TERCEL	1	0	0	1	84	1%
1992	VOLK	JETTA	0	2	0	2	19	11%
1991	ACUR	INTEGRA	26	35	0	61	362	17%
1991	ACUR	LEGEND	28	36	0	64	290	22%
1991	ALFA	164	1	1	0	2	16	13%
1991	AUDI	100	4	0	0	4	69	6%
1991	AUDI	200	1	0	0	1	11	9%
1991	AUDI	80	1	3	0	4	11	36%

**Appendix A3**  
**Vehicles RapidScreened**

<b>Year</b>	<b>Make</b>	<b>Model</b>	<b>RSD</b>	<b>Hybrid</b>	<b>LEI</b>	<b>Total Rapid Screen</b>		<b>Total Vehicles Tested</b>	<b>Rapid Screen %</b>
						<b>Total</b>	<b>Rapid Screen</b>		
1991	BMW	318I	6	8	0	14		76	18%
1991	BMW	325I	6	3	0	9		55	16%
1991	BMW	525I	4	10	0	14		48	29%
1991	BMW	535I	3	0	0	3		12	25%
1991	BMW	735I	2	4	0	6		19	32%
1991	BMW	750IL	2	0	0	2		7	29%
1991	BMW	M5	1	1	0	2		6	33%
1991	BUIC		0	1	0	1		2	50%
1991	BUIC	CENTURY	42	20	0	62		614	10%
1991	BUIC	LESABRE	56	47	0	103		432	24%
1991	BUIC	PARK AVENUE	47	0	0	47		477	10%
1991	BUIC	REATTA	2	0	0	2		8	25%
1991	BUIC	REGAL	53	0	0	53		603	9%
1991	BUIC	RIVIERA	12	9	0	21		79	27%
1991	BUIC	SKYLARK	17	30	0	47		426	11%
1991	CADI	BROUGHAM	20	0	0	20		149	13%
1991	CADI	DEVILLE	49	55	0	104		672	15%
1991	CADI	ELDORADO	3	10	0	13		69	19%
1991	CADI	FLEETWOOD	5	0	0	5		76	7%
1991	CADI	SEVILLE	8	12	0	20		130	15%
1991	CHEV		1	0	0	1		3	33%
1991	CHEV	ASTRO VAN	17	29	0	46		396	12%
1991	CHEV	BERETTA	20	2	0	22		323	7%
1991	CHEV	BLAZER	43	72	0	115		792	15%
1991	CHEV	C10	1	0	0	1		1	100%
1991	CHEV	C1500	13	22	0	35		644	5%
1991	CHEV	CAMARO	23	0	0	23		487	5%
1991	CHEV	CAPRICE	59	0	0	59		731	8%
1991	CHEV	CAVALIER	125	150	0	275		1802	15%
1991	CHEV	CORSICA	80	29	0	109		1111	10%
1991	CHEV	CORVETTE	5	0	0	5		115	4%
1991	CHEV	G20	11	2	0	13		189	7%
1991	CHEV	G30	2	0	0	2		28	7%
1991	CHEV	K10	1	0	0	1		1	100%
1991	CHEV	K1500	11	11	0	22		367	6%
1991	CHEV	K2500	3	0	0	3		34	9%
1991	CHEV	LUMINA	95	66	0	161		1360	12%
1991	CHEV	S10	51	49	0	100		2068	5%
1991	CHEV	SUBURBAN	5	3	0	8		124	6%
1991	CHRY	IMPERIAL	1	0	0	1		32	3%
1991	CHRY	LEBARON	8	0	0	8		369	2%
1991	CHRY	NEW YORKER	3	0	0	3		222	1%
1991	CHRY	TOWN & COUNTRY	1	1	0	2		16	13%
1991	DODG	B250	5	2	0	7		127	6%
1991	DODG	CARAVAN	54	7	0	61		991	6%
1991	DODG	COLT	2	0	0	2		54	4%
1991	DODG	D-150	3	0	0	3		134	2%
1991	DODG	DAKOTA	17	15	0	32		408	8%
1991	DODG	DAYTONA	2	0	0	2		103	2%
1991	DODG	DYNASTY	18	0	0	18		651	3%

**Appendix A3**  
**Vehicles RapidScreened**

Year	Make	Model	RSD	Hybrid	LEI	Total Rapid Screen	Total Vehicles Tested	Total Rapid Screen %
1991	DODG	MONACO	3	0	0	3	52	6%
1991	DODG	NEON	1	0	0	1	1	100%
1991	DODG	SHADOW	5	1	0	6	453	1%
1991	DODG	SPIRIT	17	0	0	17	610	3%
1991	DODG	STEALTH	9	6	0	15	122	12%
1991	DODG	W-150	1	0	0	1	48	2%
1991	EGIL	SUMMIT	1	0	0	1	26	4%
1991	EGIL	TALON	5	0	0	5	155	3%
1991	FORD		5	2	0	7	12	58%
1991	FORD	AEROSTAR	14	34	0	48	549	9%
1991	FORD	BRONCO	4	2	0	6	93	6%
1991	FORD	CLUB WAGON	1	1	0	2	26	8%
1991	FORD	CROWN VICTORIA	9	30	0	39	304	13%
1991	FORD	ECONOLINE	18	9	0	27	343	8%
1991	FORD	ESCORT	99	140	0	239	1666	14%
1991	FORD	EXPLORER	45	104	0	149	1290	12%
1991	FORD	F150	80	137	0	217	1305	17%
1991	FORD	F250	1	10	0	11	61	18%
1991	FORD	FESTIVA	9	12	0	21	203	10%
1991	FORD	MUSTANG	11	14	0	25	392	6%
1991	FORD	PROBE	25	32	0	57	365	16%
1991	FORD	RANGER	36	60	0	96	1203	8%
1991	FORD	TAURUS	64	97	0	161	1212	13%
1991	FORD	TEMPO	31	83	0	114	1076	11%
1991	FORD	THUNDERBIRD	11	23	0	34	281	12%
1991	GEO	METRO	2	6	0	8	200	4%
1991	GEO	PRIZM	32	52	0	84	519	16%
1991	GEO	STORM	8	24	0	32	251	13%
1991	GEO	TRACKER	0	6	0	6	103	6%
1991	GMC		1	0	0	1	2	50%
1991	GMC	JIMMY	20	26	0	46	326	14%
1991	GMC	R1500	2	0	0	2	45	4%
1991	GMC	SAFARI	18	5	0	23	569	4%
1991	GMC	SIERRA	12	18	0	30	476	6%
1991	GMC	SONOMA	15	30	0	45	446	10%
1991	GMC	V1500	1	4	0	5	59	8%
1991	GMC	VANDURA	28	19	0	47	569	8%
1991	HOND	ACCORD	246	226	0	472	1954	24%
1991	HOND	CIVIC	40	83	0	123	1028	12%
1991	HOND	PRELUDE	13	7	0	20	163	12%
1991	HYUN	EXCEL	2	0	0	2	127	2%
1991	HYUN	SONATA	5	0	0	5	63	8%
1991	INFI	G20	9	11	0	20	132	15%
1991	INFI	M30	9	7	0	16	52	31%
1991	INFI	Q45	8	11	0	19	88	22%
1991	ISU	CAB	1	0	0	1	30	3%
1991	ISU	IMPULSE	0	1	0	1	11	9%
1991	ISU	RODEO	4	0	0	4	81	5%
1991	ISU	SPACE CAB	1	0	0	1	6	17%
1991	ISU	STYLUS	0	2	0	2	28	7%

**Appendix A3**  
**Vehicles RapidScreened**

Year	Make	Model	RSD	Hybrid	LEI	Total Rapid Screen	Total Vehicles Tested	Total Rapid Screen %
1991	ISU	TROOPER	4	0	0	4	132	3%
1991	JAGU	XJ6	6	8	0	14	54	26%
1991	JAGU	XJS	1	0	0	1	16	6%
1991	JEEP	CHEROKEE	68	59	0	127	609	21%
1991	JEEP	COMANCHE	3	0	0	3	19	16%
1991	JEEP	WAGONEER	2	0	0	2	7	29%
1991	JEEP	WRANGLER	6	16	0	22	190	12%
1991	LEXS	ES 250	18	17	0	35	111	32%
1991	LEXS	LS 400	26	15	0	41	149	28%
1991	LINC	CONTINENTAL	20	24	0	44	211	21%
1991	LINC	MARK VII	7	4	0	11	47	23%
1991	LINC	TOWN CAR	40	74	0	114	706	16%
1991	MAZD		0	2	0	2	3	67%
1991	MAZD	323	1	4	0	5	86	6%
1991	MAZD	626	53	76	0	129	535	24%
1991	MAZD	929	5	1	0	6	52	12%
1991	MAZD	B2200	4	0	0	4	155	3%
1991	MAZD	B2600	3	0	0	3	105	3%
1991	MAZD	MPV WAGON	15	18	0	33	148	22%
1991	MAZD	MX5 MIATA	18	16	0	34	227	15%
1991	MAZD	MX6	17	13	0	30	139	22%
1991	MAZD	NAVAJO	1	10	0	11	87	13%
1991	MAZD	PROTEGE	10	0	0	10	342	3%
1991	MAZD	RX7	3	0	0	3	42	7%
1991	MERC	CAPRI	11	0	0	11	246	4%
1991	MERC	COLONY PARK	2	1	0	3	20	15%
1991	MERC	COUGAR	33	34	0	67	403	17%
1991	MERC	GRAND MARQUIS	26	50	0	76	472	16%
1991	MERC	SABLE	43	55	0	98	574	17%
1991	MERC	TOPAZ	6	26	0	32	335	10%
1991	MERC	TRACER	23	18	0	41	277	15%
1991	MERZ	190	7	7	0	14	60	23%
1991	MERZ	260	1	0	0	1	1	100%
1991	MERZ	300	16	14	0	30	129	23%
1991	MERZ	420	2	0	0	2	15	13%
1991	MERZ	500	2	2	0	4	26	15%
1991	MERZ	560	9	3	0	12	31	39%
1991	MITTS	3000	2	1	0	3	48	6%
1991	MITTS	ECLIPSE	12	9	0	21	213	10%
1991	MITTS	GALANT	12	0	0	12	150	8%
1991	MITTS	MIGHTY MAX	0	2	0	2	17	12%
1991	MITTS	MIRAGE	3	0	0	3	85	4%
1991	MITTS	MONTERO	4	0	0	4	78	5%
1991	NISS	240SX	7	0	0	7	137	5%
1991	NISS	300ZX	3	4	0	7	71	10%
1991	NISS	KING CAB	1	6	0	7	68	10%
1991	NISS	MAXIMA	75	54	0	129	488	26%
1991	NISS	PATHFINDER	9	12	0	21	80	26%
1991	NISS	SENTRA	37	41	0	78	403	19%
1991	NISS	SHORT BED	3	7	0	10	112	9%

**Appendix A3**  
**Vehicles RapidScreened**

<b>Year</b>	<b>Make</b>	<b>Model</b>	<b>RSD</b>	<b>Hybrid</b>	<b>LEI</b>	<b>Total Rapid Screen</b>		<b>Total Vehicles Tested</b>	<b>Rapid Screen %</b>
						<b>Total</b>	<b>Rapid Screen</b>		
1991	NISS	STANZA	21	32	0	53	292	18%	
1991	OLDS		0	1	0	1	2	50%	
1991	OLDS	98	26	0	0	26	248	10%	
1991	OLDS	BRAVADA	1	4	0	5	43	12%	
1991	OLDS	CUTLASS	101	72	0	173	1726	10%	
1991	OLDS	DELTA 88	46	50	0	96	373	26%	
1991	OLDS	SILHOUETTE	2	8	0	10	45	22%	
1991	OLDS	TORONADO	5	0	0	5	50	10%	
1991	PLYM	ACCLAIM	14	0	0	14	508	3%	
1991	PLYM	ARROW	3	0	0	3	107	3%	
1991	PLYM	COLT	1	0	0	1	18	6%	
1991	PLYM	LASER	5	8	0	13	132	10%	
1991	PLYM	SUNDANCE	11	0	0	11	223	5%	
1991	PLYM	VOYAGER	40	23	0	63	638	10%	
1991	PONT	6000	6	0	0	6	111	5%	
1991	PONT	BONNEVILLE	27	29	0	56	264	21%	
1991	PONT	FIREBIRD	14	1	0	15	306	5%	
1991	PONT	GRAND AM	38	69	0	107	965	11%	
1991	PONT	GRAND PRIX	23	1	0	24	422	6%	
1991	PONT	LEMANS	0	1	0	1	56	2%	
1991	PONT	SUNBIRD	41	52	0	93	684	14%	
1991	PONT	TRANS SPORT	7	5	0	12	78	15%	
1991	PORS	911	2	2	0	4	32	13%	
1991	PORS	944	2	0	0	2	6	33%	
1991	SAA	900	5	11	0	16	75	21%	
1991	SAA	9000	8	2	0	10	35	29%	
1991	STRN	SC	3	0	0	3	86	3%	
1991	STRN	SL	6	11	0	17	409	4%	
1991	SUBA	LEGACY	36	15	0	51	220	23%	
1991	SUBA	LOYALE	4	6	0	10	57	18%	
1991	SUZI		0	1	0	1	2	50%	
1991	SUZI	SIDEKICK	0	2	0	2	67	3%	
1991	TOYT	4RUNNER	9	10	0	19	118	16%	
1991	TOYT	CAMRY	122	170	0	292	1881	16%	
1991	TOYT	CELICA	20	36	0	56	390	14%	
1991	TOYT	COROLLA	99	132	0	231	1345	17%	
1991	TOYT	CRESSIDA	0	4	0	4	29	14%	
1991	TOYT	DELUXE	10	26	0	36	220	16%	
1991	TOYT	LAND CRUISER	6	0	0	6	39	15%	
1991	TOYT	MR2	12	11	0	23	135	17%	
1991	TOYT	PREVIA	21	43	0	64	349	18%	
1991	TOYT	SHORT BED	6	5	0	11	85	13%	
1991	TOYT	SR5	0	1	0	1	15	7%	
1991	TOYT	SUPRA	3	3	0	6	23	26%	
1991	TOYT	TERCEL	21	0	0	21	445	5%	
1991	VOLK		2	0	0	2	4	50%	
1991	VOLK	CABRIOLET	1	0	0	1	12	8%	
1991	VOLK	GOLF	6	0	0	6	43	14%	
1991	VOLK	JETTA	2	6	0	8	76	11%	
1991	VOLK	PASSAT	2	0	0	2	35	6%	

**Appendix A3**  
**Vehicles RapidScreened**

Year	Make	Model	RSD	Hybrid	LEI	Total Rapid Screen	Total Vehicles Tested	Total Rapid Screen %
1991	VOLV		0	1	0	1	2	50%
1991	VOLV	240	12	10	0	22	127	17%
1991	VOLV	740	20	8	0	28	193	15%
1991	VOLV	940	7	12	0	19	86	22%
1990	ACUR	INTEGRA	1	2	0	3	137	2%
1990	ACUR	LEGEND	1	0	0	1	66	2%
1990	BMW	325I	1	0	0	1	31	3%
1990	BMW	735I	1	0	0	1	8	13%
1990	BUIC	CENTURY	1	0	0	1	164	1%
1990	BUIC	ELECTRA	1	0	0	1	35	3%
1990	BUIC	LESABRE	2	0	0	2	209	1%
1990	BUIC	RIVIERA	2	0	0	2	34	6%
1990	CADI	DEVILLE	1	0	0	1	215	0%
1990	CADI	ELDORADO	2	0	0	2	22	9%
1990	CHEV	BERETTA	1	1	0	2	146	1%
1990	CHEV	BLAZER	0	1	0	1	97	1%
1990	CHEV	CAPRICE	1	0	0	1	101	1%
1990	CHEV	CAVALIER	1	1	0	2	541	0%
1990	CHEV	CORSICA	0	1	0	1	231	0%
1990	CHEV	G30	1	0	0	1	3	33%
1990	CHEV	LUMINA	7	1	0	8	487	2%
1990	DODG	CARAVAN	1	0	0	1	332	0%
1990	DODG	SPIRIT	1	0	0	1	139	1%
1990	FORD	CROWN VICTORIA	2	0	0	2	78	3%
1990	FORD	ESCORT	1	0	0	1	236	0%
1990	FORD	F150	4	2	0	6	421	1%
1990	FORD	F250	1	0	0	1	17	6%
1990	FORD	PROBE	2	0	0	2	162	1%
1990	FORD	RANGER	1	2	0	3	289	1%
1990	FORD	TAURUS	2	3	0	5	387	1%
1990	GEO	PRIZM	1	3	0	4	223	2%
1990	GMC	R1500	0	1	0	1	17	6%
1990	GMC	V1500	1	0	0	1	13	8%
1990	GMC	VANDURA	1	0	0	1	163	1%
1990	HOND	ACCORD	7	5	0	12	423	3%
1990	HOND	CIVIC	1	2	0	3	259	1%
1990	JEEP	CHEROKEE	0	1	0	1	145	1%
1990	LEXS	ES 250	1	0	0	1	27	4%
1990	LEXS	LS 400	2	1	0	3	45	7%
1990	LINC	TOWN CAR	0	1	0	1	182	1%
1990	MAZD	929	0	1	0	1	20	5%
1990	MAZD	B2200	0	3	0	3	57	5%
1990	MAZD	MPV WAGON	1	0	0	1	52	2%
1990	MAZD	MX5 MIATA	1	0	0	1	72	1%
1990	MAZD	PROTEGE	1	0	0	1	64	2%
1990	MERC	GRAND MARQUIS	0	2	0	2	84	2%
1990	MITS	MIRAGE	1	0	0	1	31	3%
1990	NISS	MAXIMA	3	2	0	5	127	4%
1990	NISS	PATHFINDER	0	1	0	1	14	7%
1990	OLDS	CUTLASS	3	0	0	3	482	1%

**Appendix A3**  
**Vehicles RapidScreened**

Year	Make	Model	RSD	Hybrid	LEI	Total Rapid Screen	Total Vehicles Tested	Total Rapid Screen %
1990	OLDS	DELTA 88	4	0	0	4	173	2%
1990	PLYM	VOYAGER	1	0	0	1	236	0%
1990	PONT	BONNEVILLE	1	0	0	1	99	1%
1990	TOYT	4RUNNER	1	0	0	1	45	2%
1990	TOYT	CAMRY	4	2	0	6	413	1%
1990	TOYT	COROLLA	1	3	0	4	345	1%
1990	VOLV		1	0	0	1	1	100%
1990	VOLV	240	0	1	0	1	34	3%
1990	VOLV	740	0	4	0	4	63	6%
1990	VOLV	760	1	0	0	1	10	10%
1989	ACUR	INTEGRA	1	9	0	10	120	8%
1989	ACUR	LEGEND	13	0	0	13	143	9%
1989	AUDI	100	4	0	0	4	36	11%
1989	AUDI	200	1	0	0	1	12	8%
1989	BMW		1	0	0	1	2	50%
1989	BMW	325I	14	20	0	34	157	22%
1989	BMW	525I	6	1	0	7	40	18%
1989	BMW	535I	7	4	0	11	30	37%
1989	BMW	630 CSI	0	1	0	1	2	50%
1989	BMW	635 CSI	1	0	0	1	5	20%
1989	BMW	735I	5	4	0	9	26	35%
1989	BMW	750IL	1	5	0	6	12	50%
1989	BUIC		1	0	0	1	2	50%
1989	BUIC	CENTURY	33	52	0	85	543	16%
1989	BUIC	ELECTRA	35	37	0	72	388	19%
1989	BUIC	LESABRE	70	66	0	136	623	22%
1989	BUIC	REATTA	5	2	0	7	33	21%
1989	BUIC	REGAL	13	0	0	13	270	5%
1989	BUIC	RIVIERA	9	8	0	17	97	18%
1989	BUIC	SKYHAWK	0	1	0	1	42	2%
1989	BUIC	SKYLARK	7	3	0	10	223	4%
1989	CADI	ALLANTE	4	1	0	5	25	20%
1989	CADI	BROUGHAM	6	0	0	6	185	3%
1989	CADI	DEVILLE	24	0	0	24	656	4%
1989	CADI	ELDORADO	4	7	0	11	131	8%
1989	CADI	FLEETWOOD	3	0	0	3	119	3%
1989	CADI	SEVILLE	5	7	0	12	119	10%
1989	CHEP		0	1	0	1	2	50%
1989	CHEV		0	1	0	1	3	33%
1989	CHEV	ASTRO VAN	9	0	0	9	479	2%
1989	CHEV	BERETTA	35	15	0	50	534	9%
1989	CHEV	BLAZER	32	4	0	36	686	5%
1989	CHEV	C1500	15	30	0	45	750	6%
1989	CHEV	C2500	1	2	0	3	53	6%
1989	CHEV	C3500	1	0	0	1	3	33%
1989	CHEV	CAMARO	11	0	0	11	367	3%
1989	CHEV	CAPRICE	27	0	0	27	618	4%
1989	CHEV	CAVALIER	41	57	0	98	1249	8%
1989	CHEV	CELEBRITY	47	17	0	64	958	7%
1989	CHEV	CORSICA	39	21	0	60	792	8%

**Appendix A3**  
**Vehicles RapidScreened**

<b>Year</b>	<b>Make</b>	<b>Model</b>	<b>RSD</b>	<b>Hybrid</b>	<b>LEI</b>	<b>Total Rapid Screen</b>		<b>Total Vehicles Tested</b>	<b>Rapid Screen %</b>
						<b>Total</b>	<b>Rapid Screen</b>		
1989	CHEV	CORVETTE	5	10	0	15		110	14%
1989	CHEV	G10	1	0	0	1		23	4%
1989	CHEV	G20	12	0	0	12		259	5%
1989	CHEV	G30	3	0	0	3		20	15%
1989	CHEV	K1500	6	0	0	6		375	2%
1989	CHEV	K2500	1	2	0	3		60	5%
1989	CHEV	S10	26	10	0	36		1042	3%
1989	CHEV	SUBURBAN	12	0	0	12		255	5%
1989	CHRY	FIFTH AVENUE	1	0	0	1		50	2%
1989	CHRY	LEBARON	22	9	0	31		337	9%
1989	CHRY	NEW YORKER	3	0	0	3		292	1%
1989	CHRY	T-C BY MASERATI	1	2	0	3		31	10%
1989	DODG	ARIES	2	0	0	2		203	1%
1989	DODG	B250	7	0	0	7		159	4%
1989	DODG	CARAVAN	15	0	0	15		766	2%
1989	DODG	COLT	0	4	0	4		52	8%
1989	DODG	D-100	4	0	0	4		113	4%
1989	DODG	D-150	1	0	0	1		96	1%
1989	DODG	DAKOTA	7	13	0	20		428	5%
1989	DODG	DAYTONA	6	4	0	10		238	4%
1989	DODG	DYNASTY	9	0	0	9		524	2%
1989	DODG	OMNI	5	10	0	15		132	11%
1989	DODG	RAIDER	1	0	0	1		24	4%
1989	DODG	RAM VAN	1	0	0	1		2	50%
1989	DODG	RAM WAGON	1	0	0	1		1	100%
1989	DODG	RAMCHARGER	1	0	0	1		89	1%
1989	DODG	SHADOW	2	6	0	8		202	4%
1989	DODG	SPIRIT	5	2	0	7		201	3%
1989	DODG	W-250	1	0	0	1		11	9%
1989	EGIL	Premier	2	0	0	2		41	5%
1989	EGIL	SUMMIT	2	0	0	2		47	4%
1989	FORD	AEROSTAR	14	23	0	37		648	6%
1989	FORD	BRONCO	4	9	0	13		216	6%
1989	FORD	BRONCO II	3	17	0	20		285	7%
1989	FORD	CLUB WAGON	2	1	0	3		64	5%
1989	FORD	CROWN VICTORIA	11	47	0	58		627	9%
1989	FORD	ECONOLINE	18	8	0	26		411	6%
1989	FORD	ESCORT	6	27	0	33		810	4%
1989	FORD	F150	43	48	0	91		1413	6%
1989	FORD	F250	5	2	0	7		119	6%
1989	FORD	FESTIVA	2	2	0	4		112	4%
1989	FORD	MUSTANG	21	16	0	37		718	5%
1989	FORD	PROBE	37	66	0	103		563	18%
1989	FORD	RANGER	12	22	0	34		872	4%
1989	FORD	TAURUS	21	89	0	110		1149	10%
1989	FORD	TEMPO	12	38	0	50		729	7%
1989	FORD	THUNDERBIRD	10	22	0	32		318	10%
1989	GEO	METRO	1	0	0	1		29	3%
1989	GEO	PRIZM	1	0	0	1		14	7%
1989	GMC	JIMMY	15	0	0	15		257	6%

**Appendix A3**  
**Vehicles RapidScreened**

Year	Make	Model	RSD	Hybrid	LEI	Total Rapid Screen	Total Vehicles Tested	Total Rapid Screen %
1989	GMC	R1500	7	0	0	7	69	10%
1989	GMC	S15	8	2	0	10	233	4%
1989	GMC	SAFARI	5	0	0	5	223	2%
1989	GMC	SIERRA	16	7	0	23	480	5%
1989	GMC	SONOMA	1	1	0	2	2	100%
1989	GMC	VANDURA	22	1	0	23	411	6%
1989	HOND	ACCORD	76	112	0	188	1171	16%
1989	HOND	CIVIC	19	36	0	55	735	7%
1989	HOND	PRELUDE	6	18	0	24	238	10%
1989	ISU	TROOPER	2	3	0	5	69	7%
1989	JAGU	VDP	0	6	0	6	20	30%
1989	JAGU	XJ6	2	5	0	7	34	21%
1989	JAGU	XJS	1	0	0	1	30	3%
1989	JEEP	CHEROKEE	13	32	0	45	459	10%
1989	JEEP	COMANCHE	6	4	0	10	55	18%
1989	JEEP	WAGONEER	3	1	0	4	59	7%
1989	JEEP	WRANGLER	3	0	0	3	132	2%
1989	LINC	CONTINENTAL	8	9	0	17	132	13%
1989	LINC	MARK VII	3	16	0	19	109	17%
1989	LINC	TOWN CAR	27	62	0	89	674	13%
1989	LNDR	RANGE ROVER	1	0	0	1	10	10%
1989	MAZD	323	8	27	0	35	267	13%
1989	MAZD	626	31	38	0	69	333	21%
1989	MAZD	929	3	8	0	11	77	14%
1989	MAZD	B2200	1	0	0	1	332	0%
1989	MAZD	B2600	1	0	0	1	21	5%
1989	MAZD	MPV WAGON	10	14	0	24	103	23%
1989	MAZD	MX-6	12	15	0	27	174	16%
1989	MERC	COLONY PARK	0	9	0	9	58	16%
1989	MERC	COUGAR	19	29	0	48	335	14%
1989	MERC	GRAND MARQUIS	26	63	0	89	669	13%
1989	MERC	SABLE	9	28	0	37	313	12%
1989	MERC	TOPAZ	7	11	0	18	272	7%
1989	MERC	TRACER	2	9	0	11	153	7%
1989	MERK	MERKUR XR4TI	1	0	0	1	4	25%
1989	MERK	SCORPIO	3	0	0	3	13	23%
1989	MERZ		1	1	0	2	3	67%
1989	MERZ	190	3	0	0	3	48	6%
1989	MERZ	260	1	0	0	1	15	7%
1989	MERZ	300	9	0	0	9	85	11%
1989	MERZ	420	7	3	0	10	27	37%
1989	MERZ	560	4	6	0	10	65	15%
1989	MITS	GALANT	4	2	0	6	97	6%
1989	MITS	SIGMA	0	1	0	1	3	33%
1989	NISS		1	0	0	1	2	50%
1989	NISS	240SX	13	0	0	13	182	7%
1989	NISS	300ZX	2	0	0	2	10	20%
1989	NISS	720	3	4	0	7	115	6%
1989	NISS	KING CAB	0	1	0	1	1	100%
1989	NISS	LONG BED	1	0	0	1	1	100%

**Appendix A3**  
**Vehicles RapidScreened**

Year	Make	Model	RSD	Hybrid	LEI	Total Rapid Screen		Total Vehicles Tested	Rapid Screen %
						Total	Screen		
1989	NISS	MAXIMA	41	35	0	76		291	26%
1989	NISS	PATHFINDER	0	1	0	1		29	3%
1989	NISS	PULSAR	1	3	0	4		56	7%
1989	NISS	SENTRA	9	21	0	30		330	9%
1989	NISS	STANZA	1	3	0	4		37	11%
1989	OLDS		1	0	0	1		2	50%
1989	OLDS	98	37	43	0	80		402	20%
1989	OLDS	CUTLASS	107	73	0	180		1834	10%
1989	OLDS	DELTA 88	79	86	0	165		812	20%
1989	OLDS	TORONADO	6	0	0	6		32	19%
1989	PLYM	ACCLAIM	2	0	0	2		138	1%
1989	PLYM	ARROW	2	2	0	4		78	5%
1989	PLYM	COLT	0	4	0	4		49	8%
1989	PLYM	HORIZON	2	0	0	2		114	2%
1989	PLYM	RELIANT	5	0	0	5		222	2%
1989	PLYM	SUNDANCE	5	0	0	5		174	3%
1989	PLYM	VOYAGER	13	9	0	22		568	4%
1989	PONT	6000	10	1	0	11		205	5%
1989	PONT	BONNEVILLE	50	63	0	113		469	24%
1989	PONT	FIREBIRD	8	5	0	13		269	5%
1989	PONT	GRAND AM	7	23	0	30		578	5%
1989	PONT	GRAND PRIX	10	0	0	10		327	3%
1989	PONT	LEMANS	1	0	0	1		58	2%
1989	PONT	SUNBIRD	7	17	0	24		280	9%
1989	PORS	928	0	1	0	1		4	25%
1989	SAA	900	4	11	0	15		91	16%
1989	SAA	9000	2	4	0	6		29	21%
1989	SUBA	DL	0	1	0	1		9	11%
1989	SUBA	GL	0	3	0	3		33	9%
1989	SUBA	LOYALE	0	1	0	1		1	100%
1989	TOYT	4RUNNER	3	4	0	7		50	14%
1989	TOYT	CAMRY	78	121	0	199		1539	13%
1989	TOYT	CELICA	16	25	0	41		357	11%
1989	TOYT	COROLLA	40	86	0	126		1106	11%
1989	TOYT	CRESSIDA	10	11	0	21		103	20%
1989	TOYT	DELUXE	13	24	0	37		286	13%
1989	TOYT	LAND CRUISER	1	0	0	1		9	11%
1989	TOYT	SHORT BED	1	3	0	4		60	7%
1989	TOYT	SR5	5	3	0	8		38	21%
1989	TOYT	SUPRA	9	1	0	10		78	13%
1989	TOYT	TERCEL	14	33	0	47		282	17%
1989	TOYT	VAN WAGON	2	3	0	5		29	17%
1989	TOYT	XTRACAB	0	2	0	2		16	13%
1989	VOLK	CABRIOLET	1	2	0	3		29	10%
1989	VOLK	FOX	0	2	0	2		47	4%
1989	VOLK	GOLF	1	0	0	1		12	8%
1989	VOLK	JETTA	2	1	0	3		47	6%
1989	VOLK	VANAGON	0	1	0	1		3	33%
1989	VOLV		3	1	0	4		7	57%
1989	VOLV	240	12	18	0	30		176	17%

**Appendix A3**  
**Vehicles RapidScreened**

Year	Make	Model	RSD	Hybrid	LEI	Total Rapid Screen	Total Vehicles Tested	Total Rapid Screen %
1989	VOLV	740		11	22	0	33	214
1989	VOLV	760		2	0	0	2	34
1988	BUIC	ELECTRA		1	0	0	1	103
1988	BUIC	REGAL		2	0	0	2	119
1988	CADI	DEVILLE		1	0	0	1	119
1988	CADI	ELDORADO		2	0	0	2	26
1988	CHEV	BERETTA		1	0	0	1	169
1988	CHEV	BLAZER		1	0	0	1	163
1988	CHEV	CAPRICE		1	0	0	1	135
1988	CHEV	CELEBRITY		2	0	0	2	310
1988	CHEV	CORSICA		1	0	0	1	229
1988	CHEV	K1500		1	0	0	1	115
1988	CHEV	SUBURBAN		1	0	0	1	58
1988	DODG	CARAVAN		1	0	0	1	187
1988	DODG	DAKOTA		1	0	0	1	120
1988	DODG	DYNASTY		1	0	0	1	84
1988	DODG	MINI RAM		1	0	0	1	15
1988	FORD	BRONCO		1	0	0	1	58
1988	FORD	F150		1	0	0	1	389
1988	FORD	RANGER		1	0	0	1	315
1988	FORD	TAURUS		1	0	0	1	322
1988	FORD	THUNDERBIRD		1	0	0	1	110
1988	GMC	C1500		0	1	0	1	82
1988	GMC	G2500		1	0	0	1	2
1988	GMC	S15		1	0	0	1	72
1988	GMC	SIERRA		1	0	0	1	1
1988	HOND	ACCORD		0	6	0	6	382
1988	HOND	CIVIC		1	0	0	1	174
1988	LINC	MARK VII		1	0	0	1	25
1988	LINC	TOWN CAR		1	0	0	1	220
1988	MAZD	626		1	0	0	1	88
1988	MAZD	MX-6		0	0	1	1	42
1988	MAZD	MX6		0	1	0	1	15
1988	MERC	COLONY PARK		0	1	0	1	10
1988	MERC	COUGAR		1	0	0	1	133
1988	MERC	GRAND MARQUIS		1	1	0	2	116
1988	MERC	TRACER		1	0	0	1	50
1988	OLDS	98		1	0	0	1	82
1988	OLDS	CUTLASS		4	0	0	4	487
1988	OLDS	DELTA 88		1	0	0	1	150
1988	OLDS	TORONADO		1	0	0	1	19
1988	PLYM			1	0	0	1	1
1988	PLYM	CARAVELLE		1	0	0	1	14
1988	PLYM	RELIANT		2	0	0	2	108
1988	PLYM	VOYAGER		1	0	0	1	110
1988	PONT	FIERO		1	0	0	1	21
1988	PONT	GRAND AM		1	0	0	1	163
1988	SUZI	SAMURAI		0	0	1	1	74
1988	TOYT	CAMRY		3	4	0	7	315
1988	TOYT	CELICA		1	0	0	1	96

**Appendix A3**  
**Vehicles RapidScreened**

<b>Year</b>	<b>Make</b>	<b>Model</b>	<b>RSD</b>	<b>Hybrid</b>	<b>LEI</b>	<b>Total Rapid Screen</b>		<b>Total Vehicles Tested</b>	<b>Rapid Screen %</b>
						<b>Total</b>	<b>Vehicles Tested</b>		
1988	TOYT	COROLLA	1	2	0	3	234	1%	
1988	TOYT	DELUXE	0	1	0	1	10	10%	
1988	TOYT	TERCEL	1	0	0	1	78	1%	
1988	VOLV	740	1	0	0	1	47	2%	
1987	ACUR	INTEGRA	5	7	0	12	116	10%	
1987	ACUR	LEGEND	9	4	0	13	122	11%	
1987	AMER	CHEROKEE	6	9	0	15	199	8%	
1987	AMER	COMANCHE	2	0	0	2	62	3%	
1987	AMER	WAGONEER	1	3	0	4	61	7%	
1987	AUDI	5000	3	0	0	3	60	5%	
1987	BMW	325I	8	13	0	21	209	10%	
1987	BMW	528I	5	8	0	13	34	38%	
1987	BMW	535I	2	0	0	2	19	11%	
1987	BUIC	CENTURY	7	17	0	24	360	7%	
1987	BUIC	ELECTRA	12	3	0	15	237	6%	
1987	BUIC	LESABRE	26	29	0	55	387	14%	
1987	BUIC	REGAL	5	0	0	5	194	3%	
1987	BUIC	RIVIERA	2	0	0	2	31	6%	
1987	BUIC	SKYHAWK	1	0	0	1	71	1%	
1987	BUIC	SKYLARK	2	0	0	2	41	5%	
1987	BUIC	SOMERSET	4	0	0	4	71	6%	
1987	CADI	BROUGHAM	2	0	0	2	205	1%	
1987	CADI	CIMARRON	1	1	0	2	26	8%	
1987	CADI	DEVILLE	17	0	0	17	425	4%	
1987	CADI	FLEETWOOD	1	0	0	1	56	2%	
1987	CADI	SEVILLE	2	0	0	2	57	4%	
1987	CHEV		0	1	0	1	2	50%	
1987	CHEV	ASTRO VAN	10	0	0	10	352	3%	
1987	CHEV	BLAZER	7	17	0	24	374	6%	
1987	CHEV	CAMARO	6	0	0	6	290	2%	
1987	CHEV	CAPRICE	17	0	0	17	552	3%	
1987	CHEV	CAVALIER	10	5	0	15	521	3%	
1987	CHEV	CELEBRITY	29	7	0	36	751	5%	
1987	CHEV	CORVETTE	7	0	0	7	105	7%	
1987	CHEV	EL CAMINO	2	0	0	2	36	6%	
1987	CHEV	G20	12	1	0	13	192	7%	
1987	CHEV	G30	3	0	0	3	10	30%	
1987	CHEV	MONTE CARLO	3	0	0	3	277	1%	
1987	CHEV	NOVA	3	22	0	25	412	6%	
1987	CHEV	R10	10	0	0	10	290	3%	
1987	CHEV	R20	1	0	0	1	25	4%	
1987	CHEV	S10	6	1	0	7	539	1%	
1987	CHEV	SUBURBAN	10	0	0	10	173	6%	
1987	CHEV	V10	1	6	0	7	145	5%	
1987	CHRY	FIFTH AVENUE	7	0	0	7	252	3%	
1987	CHRY	LEBARON	8	2	0	10	314	3%	
1987	DODG	600	2	0	0	2	47	4%	
1987	DODG	ARIES	1	5	0	6	185	3%	
1987	DODG	B250	2	0	0	2	175	1%	
1987	DODG	CARAVAN	3	0	0	3	220	1%	

**Appendix A3**  
**Vehicles RapidScreened**

Year	Make	Model	RSD	Hybrid	LEI	Total Rapid Screen		Total Vehicles Tested	Rapid Screen %
						Total	Screen		
1987	DODG	D-100		1	2	0	3	66	5%
1987	DODG	D-150		1	2	0	3	172	2%
1987	DODG	DAKOTA		2	0	0	2	399	1%
1987	DODG	DAYTONA		4	0	0	4	53	8%
1987	DODG	DIPLOMAT		2	0	0	2	74	3%
1987	DODG	RAIDER		1	0	0	1	13	8%
1987	DODG	RAM 50		0	1	0	1	71	1%
1987	DODG	RAMCHARGER		1	0	0	1	66	2%
1987	DODG	W-150		1	0	0	1	59	2%
1987	FORD	AEROSTAR		2	1	0	3	237	1%
1987	FORD	BRONCO		1	1	0	2	118	2%
1987	FORD	BRONCO II		3	2	0	5	224	2%
1987	FORD	CLUB WAGON		5	0	0	5	50	10%
1987	FORD	CROWN VICTORIA		10	0	0	10	358	3%
1987	FORD	ECONOLINE		9	0	0	9	373	2%
1987	FORD	ESCORT		3	0	0	3	550	1%
1987	FORD	F150		21	30	0	51	952	5%
1987	FORD	F250		1	0	0	1	67	1%
1987	FORD	MUSTANG		4	9	0	13	314	4%
1987	FORD	RANGER		5	2	0	7	560	1%
1987	FORD	TAURUS		8	0	0	8	585	1%
1987	FORD	TEMPO		7	0	0	7	297	2%
1987	FORD	THUNDERBIRD		7	1	0	8	189	4%
1987	GMC	JIMMY		3	3	0	6	188	3%
1987	GMC	R1500		3	6	0	9	168	5%
1987	GMC	R2500		2	1	0	3	15	20%
1987	GMC	S15		3	3	0	6	163	4%
1987	GMC	SAFARI		6	2	0	8	144	6%
1987	GMC	V1500		4	0	0	4	96	4%
1987	GMC	VANDURA		13	1	0	14	391	4%
1987	HOND			0	1	0	1	2	50%
1987	HOND	ACCORD		25	78	0	103	776	13%
1987	HOND	CIVIC		4	15	0	19	321	6%
1987	HOND	PRELUDE		2	4	0	6	99	6%
1987	INFI	I30		1	0	0	1	1	100%
1987	JAGU			1	0	0	1	2	50%
1987	JAGU	XJ6		1	0	0	1	41	2%
1987	JEEP	CHEROKEE		1	1	0	2	3	67%
1987	LINC	CONTINENTAL		1	0	0	1	31	3%
1987	LINC	MARK VII		1	0	0	1	24	4%
1987	LINC	TOWN CAR		7	0	0	7	281	2%
1987	MAZD	323		3	7	0	10	153	7%
1987	MAZD	626		11	13	0	24	178	13%
1987	MAZD	B2000		2	0	0	2	295	1%
1987	MAZD	B2200		1	0	0	1	173	1%
1987	MAZD	RX7		5	0	0	5	80	6%
1987	MERC	COUGAR		4	0	0	4	273	1%
1987	MERC	GRAND MARQUIS		18	0	0	18	449	4%
1987	MERC	SABLE		5	0	0	5	193	3%
1987	MERZ	190		3	0	0	3	63	5%

**Appendix A3**  
**Vehicles RapidScreened**

Year	Make	Model	RSD	Hybrid	LEI	Total Rapid Screen		Total Vehicles Tested	Rapid Screen %
						Total	Screen		
1987	MERZ	260		1	0	0	1	31	3%
1987	MERZ	300		3	0	0	3	60	5%
1987	MERZ	420		4	0	0	4	48	8%
1987	MERZ	560		7	3	0	10	73	14%
1987	MITS	GALANT		1	0	0	1	6	17%
1987	NISS			0	1	0	1	2	50%
1987	NISS	200SX		1	2	0	3	46	7%
1987	NISS	300ZX		2	0	0	2	73	3%
1987	NISS	720		4	9	0	13	207	6%
1987	NISS	MAXIMA		18	0	0	18	342	5%
1987	NISS	PATHFINDER		0	5	0	5	68	7%
1987	NISS	SENTRA		2	0	0	2	245	1%
1987	NISS	STANZA		10	0	0	10	151	7%
1987	NISS	VAN		0	1	0	1	8	13%
1987	OLDS			1	0	0	1	2	50%
1987	OLDS	98		13	0	0	13	218	6%
1987	OLDS	CALAIS		2	0	0	2	128	2%
1987	OLDS	CUTLASS		38	13	0	51	1259	4%
1987	OLDS	DELTA 88		19	36	0	55	374	15%
1987	OLDS	TORONADO		2	0	0	2	33	6%
1987	PLYM			1	0	0	1	3	33%
1987	PLYM	CARAVELLE		2	0	0	2	92	2%
1987	PLYM	RELIANT		1	7	0	8	174	5%
1987	PLYM	SUNDANCE		1	0	0	1	83	1%
1987	PLYM	VOYAGER		3	0	0	3	189	2%
1987	PONT	6000		7	4	0	11	205	5%
1987	PONT	BONNEVILLE		14	17	0	31	173	18%
1987	PONT	FIREBIRD		3	0	0	3	199	2%
1987	PONT	GRAND AM		4	0	0	4	301	1%
1987	PONT	GRAND PRIX		2	0	0	2	80	3%
1987	PONT	SAFARI		1	0	0	1	32	3%
1987	PORS	911		1	4	0	5	34	15%
1987	PORS	924		0	2	0	2	22	9%
1987	PORS	944		3	6	0	9	69	13%
1987	SAA	900		1	3	0	4	53	8%
1987	SAA	9000		1	0	0	1	21	5%
1987	SUBA	DL		1	0	0	1	14	7%
1987	SUBA	GL		1	1	0	2	62	3%
1987	TOYT	1/2 TON		1	5	0	6	174	3%
1987	TOYT	4RUNNER		4	7	0	11	72	15%
1987	TOYT	CAMRY		43	64	0	107	793	13%
1987	TOYT	CELICA		9	19	0	28	251	11%
1987	TOYT	COROLLA		13	31	0	44	535	8%
1987	TOYT	CRESSIDA		3	0	0	3	63	5%
1987	TOYT	DELUXE		1	4	0	5	63	8%
1987	TOYT	MR2		4	1	0	5	32	16%
1987	TOYT	SHORT BED		0	3	0	3	67	4%
1987	TOYT	SR5		0	2	0	2	17	12%
1987	TOYT	SUPRA		6	0	0	6	108	6%
1987	TOYT	TERCEL		2	2	0	4	125	3%

**Appendix A3**  
**Vehicles RapidScreened**

Year	Make	Model	RSD	Hybrid	LEI	Total Rapid Screen		Total Vehicles Tested	Rapid Screen %
						Total	Screen		
1987	TOYT	VAN WAGON	2	8	0	10		57	18%
1987	VOLK	CABRIOLET	1	0	0	1		38	3%
1987	VOLK	GOLF	1	1	0	2		52	4%
1987	VOLK	JETTA	2	2	0	4		75	5%
1987	VOLK	VANAGON	0	3	0	3		25	12%
1987	VOLV		0	1	0	1		2	50%
1987	VOLV	240	10	6	0	16		182	9%
1987	VOLV	740	15	20	0	35		212	17%
1987	VOLV	760	2	4	0	6		59	10%
1986	BUIC	CENTURY	1	0	0	1		133	1%
1986	BUIC	LESABRE	1	0	0	1		87	1%
1986	CHEV	CAPRICE	1	0	0	1		167	1%
1986	HOND	ACCORD	2	3	0	5		216	2%
1986	MAZD	626	0	1	0	1		49	2%
1986	MERC	GRAND MARQUIS	2	0	0	2		114	2%
1986	MERC	SABLE	2	0	0	2		43	5%
1986	OLDS	98	1	0	0	1		73	1%
1986	OLDS	CALAIS	0	1	0	1		32	3%
1986	OLDS	CUTLASS	1	0	0	1		527	0%
1986	OLDS	DELTA 88	1	0	0	1		157	1%
1986	PLYM	CARAVELLE	0	1	0	1		18	6%
1986	PONT	BONNEVILLE	1	0	0	1		30	3%
1986	TOYT	4RUNNER	0	1	0	1		28	4%
1985	AUDI	5000	1	0	0	1		25	4%
1985	BMW	318I	0	2	0	2		43	5%
1985	BMW	528I	0	8	0	8		30	27%
1985	BMW	535I	1	0	0	1		11	9%
1985	BMW	635 CSI	1	0	0	1		11	9%
1985	BMW	735I	1	0	0	1		17	6%
1985	BUIC		0	2	0	2		4	50%
1985	BUIC	CENTURY	8	0	0	8		208	4%
1985	BUIC	ELECTRA	7	0	0	7		201	3%
1985	BUIC	LESABRE	9	0	0	9		360	3%
1985	BUIC	REGAL	5	0	0	5		189	3%
1985	BUIC	RIVIERA	4	0	0	4		178	2%
1985	BUIC	SKYHAWK	1	3	0	4		66	6%
1985	BUIC	SKYLARK	4	0	0	4		96	4%
1985	BUIC	SOMERSET	1	1	0	2		50	4%
1985	CADI	CIMARRON	2	0	0	2		18	11%
1985	CADI	DEVILLE	3	0	0	3		172	2%
1985	CADI	ELDORADO	3	0	0	3		167	2%
1985	CADI	FLEETWOOD	5	0	0	5		206	2%
1985	CHEV	BLAZER	3	0	0	3		335	1%
1985	CHEV	C10	3	0	0	3		471	1%
1985	CHEV	CAMARO	7	0	0	7		240	3%
1985	CHEV	CAPRICE	13	0	0	13		530	2%
1985	CHEV	CAVALIER	2	3	0	5		272	2%
1985	CHEV	CELEBRITY	4	6	0	10		417	2%
1985	CHEV	CITATION	1	0	0	1		29	3%
1985	CHEV	CORVETTE	4	0	0	4		118	3%

**Appendix A3**  
**Vehicles RapidScreened**

Year	Make	Model	RSD	Hybrid	LEI	Total Rapid Screen	Total Vehicles Tested	Total Rapid Screen %
1985	CHEV	G20	2	0	0	2	185	1%
1985	CHEV	IMPALA	3	0	0	3	66	5%
1985	CHEV	K10	1	0	0	1	132	1%
1985	CHEV	MONTE CARLO	5	0	0	5	256	2%
1985	CHEV	NOVA	0	3	0	3	59	5%
1985	CHEV	SUBURBAN	1	0	0	1	134	1%
1985	CHRY	FIFTH AVENUE	2	0	0	2	186	1%
1985	CHRY	LEBARON	2	0	0	2	156	1%
1985	DODG	B250	1	0	0	1	140	1%
1985	DODG	CARAVAN	1	3	0	4	93	4%
1985	DODG	D-100	2	0	0	2	398	1%
1985	DODG	DIPLOMAT	4	0	0	4	79	5%
1985	FORD	BRONCO	1	0	0	1	92	1%
1985	FORD	BRONCO II	1	0	0	1	118	1%
1985	FORD	ESCORT	1	0	0	1	214	0%
1985	FORD	F150	7	0	0	7	715	1%
1985	FORD	F250	1	0	0	1	65	2%
1985	FORD	LTD	15	0	0	15	721	2%
1985	FORD	MUSTANG	1	0	0	1	167	1%
1985	FORD	RANGER	2	0	0	2	335	1%
1985	FORD	TEMPO	1	0	0	1	191	1%
1985	FORD	THUNDERBIRD	3	0	0	3	103	3%
1985	GMC	C1500	1	0	0	1	215	0%
1985	GMC	G2500	1	0	0	1	16	6%
1985	GMC	S15	2	0	0	2	125	2%
1985	GMC	VANDURA	4	0	0	4	253	2%
1985	HOND		0	1	0	1	2	50%
1985	HOND	ACCORD	3	2	0	5	295	2%
1985	HOND	CIVIC	3	2	0	5	123	4%
1985	HOND	PRELUDE	2	0	0	2	51	4%
1985	LINC	CONTINENTAL	1	0	0	1	77	1%
1985	LINC	TOWN CAR	11	0	0	11	387	3%
1985	MAZD	626	1	0	0	1	45	2%
1985	MAZD	RX7	2	0	0	2	89	2%
1985	MERC	GRAND MARQUIS	11	0	0	11	707	2%
1985	MERC	TOPAZ	2	0	0	2	24	8%
1985	MERK	MERKUR XR4TI	1	0	0	1	11	9%
1985	MERZ	190	4	0	0	4	37	11%
1985	MERZ	380	4	0	0	4	88	5%
1985	MERZ	500	3	0	0	3	28	11%
1985	MITS		1	0	0	1	2	50%
1985	NISS	300ZX	3	0	0	3	96	3%
1985	NISS	MAXIMA	2	0	0	2	86	2%
1985	NISS	SENTRA	1	0	0	1	57	2%
1985	OLDS	98	11	0	0	11	252	4%
1985	OLDS	CALAIS	0	1	0	1	34	3%
1985	OLDS	CUTLASS	15	3	0	18	822	2%
1985	OLDS	DELTA 88	6	0	0	6	500	1%
1985	OLDS	TORONADO	1	0	0	1	100	1%
1985	PLYM	RELIANT	1	0	0	1	112	1%

**Appendix A3**  
**Vehicles RapidScreened**

Year	Make	Model	RSD	Hybrid	LEI	Total Rapid Screen		Total Vehicles Tested	Rapid Screen %
						Total	Screen		
1985	PLYM	VOYAGER	1	3	0	4		67	6%
1985	PONT	6000	4	0	0	4		106	4%
1985	PONT	BONNEVILLE	1	0	0	1		61	2%
1985	PONT	FIERO	1	0	0	1		85	1%
1985	PONT	FIREBIRD	6	0	0	6		114	5%
1985	PONT	GRAND AM	1	0	0	1		19	5%
1985	PONT	GRAND PRIX	2	0	0	2		92	2%
1985	PONT	PARISIENNE	8	0	0	8		153	5%
1985	PORS	944	5	2	0	7		55	13%
1985	SAA	900	1	1	0	2		47	4%
1985	TOYT		0	2	0	2		4	50%
1985	TOYT	1/2 TON	1	3	0	4		129	3%
1985	TOYT	4RUNNER	1	0	0	1		26	4%
1985	TOYT	CAMRY	11	19	0	30		243	12%
1985	TOYT	CELICA	6	7	0	13		116	11%
1985	TOYT	COROLLA	5	6	0	11		266	4%
1985	TOYT	CRESSIDA	2	0	0	2		47	4%
1985	TOYT	DELUXE	0	2	0	2		50	4%
1985	TOYT	SR5	0	6	0	6		60	10%
1985	TOYT	TERCEL	0	3	0	3		119	3%
1985	TOYT	VAN WAGON	0	4	0	4		36	11%
1985	TOYT	XTRACAB	0	1	0	1		7	14%
1985	VOLK	GOLF	4	4	0	8		55	15%
1985	VOLK	JETTA	1	2	0	3		51	6%
1985	VOLK	VANAGON	1	1	0	2		24	8%
1985	VOLV		1	0	0	1		2	50%
1985	VOLV	240	1	0	0	1		169	1%
1985	VOLV	740	5	0	0	5		85	6%
1985	VOLV	760	2	0	0	2		15	13%
1984	CHEV	CAVALIER	1	0	0	1		82	1%
1984	TOYT	CELICA	1	0	0	1		18	6%
1983	BMW	533I	1	0	0	1		10	10%
1983	BMW	633 CSI	1	0	0	1		3	33%
1983	BMW	635 CSI	1	0	0	1		2	50%
1983	BUIC	ELECTRA	3	0	0	3		128	2%
1983	BUIC	LESABRE	1	0	0	1		241	0%
1983	BUIC	REGAL	1	0	0	1		143	1%
1983	BUIC	SKYLARK	2	0	0	2		58	3%
1983	CADI	DEVILLE	2	0	0	2		127	2%
1983	CADI	FLEETWOOD	1	0	0	1		50	2%
1983	CHEV	C10	1	0	0	1		268	0%
1983	CHEV	C20	1	0	0	1		20	5%
1983	CHEV	CAMARO	1	0	0	1		85	1%
1983	CHEV	CAPRICE	3	0	0	3		222	1%
1983	CHEV	CITATION	1	0	0	1		20	5%
1983	CHEV	MONTE CARLO	2	0	0	2		96	2%
1983	CHRY	LEBARON	2	0	0	2		35	6%
1983	CHRY	NEW YORKER	4	0	0	4		115	3%
1983	DATS	720	1	0	0	1		14	7%
1983	DATS	SENTRA	1	0	0	1		31	3%

**Appendix A3**  
**Vehicles RapidScreened**

Year	Make	Model	RSD	Hybrid	LEI	Total Rapid Screen	Total Vehicles Tested	Total Rapid Screen %
1983	DODG	B250	2	0	0	2	69	3%
1983	DODG	MIRADA	1	0	0	1	2	50%
1983	FORD	BRONCO	1	0	0	1	63	2%
1983	FORD	F150	5	0	0	5	343	1%
1983	FORD	LTD	1	0	0	1	195	1%
1983	FORD	RANGER	1	0	0	1	122	1%
1983	GMC	K1500	1	0	0	1	42	2%
1983	GMC	S15	1	0	0	1	33	3%
1983	GMC	VANDURA	1	0	0	1	197	1%
1983	HOND	ACCORD	2	2	0	4	67	6%
1983	HOND	CIVIC	1	0	0	1	50	2%
1983	JAGU	XJ6	1	0	0	1	17	6%
1983	LEXS	ES 300	1	0	0	1	1	100%
1983	LINC	TOWN CAR	1	0	0	1	64	2%
1983	MAZD	B2000	0	1	0	1	13	8%
1983	MAZD	RX7	1	0	0	1	30	3%
1983	MERC	CAPRI	1	0	0	1	6	17%
1983	MERC	GRAND MARQUIS	4	0	0	4	203	2%
1983	MERZ	380	3	0	0	3	64	5%
1983	OLDS	98	2	0	0	2	171	1%
1983	OLDS	DELTA 88	3	0	0	3	269	1%
1983	OLDS	TORONADO	1	0	0	1	52	2%
1983	PONT		2	0	0	2	4	50%
1983	PONT	BONNEVILLE	1	0	0	1	63	2%
1983	PONT	FIREBIRD	1	0	0	1	34	3%
1983	PONT	PARISIENNE	2	0	0	2	16	13%
1983	PORS	944	2	0	0	2	27	7%
1983	TOYT	CELICA	2	0	0	2	49	4%
1983	TOYT	COROLLA	1	0	0	1	71	1%
1983	TOYT	SUPRA	1	0	0	1	23	4%
1983	TOYT	TERCEL	1	0	0	1	69	1%
1983	VOLV	240	1	1	0	2	80	3%
1981	BUIC	CENTURY	2	0	0	2	64	3%
1981	BUIC	RIVIERA	1	0	0	1	34	3%
1981	CHEV	C1500	1	0	0	1	1	100%
1981	CHEV	C20	1	0	0	1	15	7%
1981	CHEV	CAVALIER	1	0	0	1	1	100%
1981	CHEV	CITATION	1	0	0	1	45	2%
1981	CHEV	CORVETTE	4	0	0	4	138	3%
1981	FORD	GRANADA	1	0	0	1	49	2%
1981	GMC	C1500	1	0	0	1	72	1%
1981	MERZ	380	1	0	0	1	22	5%
1981	OLDS	CUTLASS	1	0	0	1	191	1%
1981	OLDS	DELTA 88	3	0	0	3	75	4%
1981	PONT	GRAND PRIX	1	0	0	1	33	3%
1981	PORS	928	1	0	0	1	9	11%
1981	TOYT	CELICA	0	1	0	1	23	4%
1981	TOYT	CRESSIDA	0	1	0	1	8	13%
1981	TOYT	TERCEL	1	0	0	1	23	4%
1981	VOLV	240	1	0	0	1	31	3%

**Appendix A3**  
**Vehicles RapidScreened**

Year	Make	Model	RSD	Hybrid	LEI	Total Rapid Screen	Total Vehicles Tested	Total Rapid Screen %
1979	BUIC	ELECTRA	1	0	0	1	28	4%
1979	BUIC	LESABRE	1	0	0	1	100	1%
1979	BUIC	PARK AVENUE	1	0	0	1	13	8%
1979	CADI	DEVILLE	1	0	0	1	137	1%
1979	CHEV	C10	1	0	0	1	258	0%
1979	CHEV	CAMARO	1	0	0	1	100	1%
1979	CHEV	CAPRICE	1	0	0	1	159	1%
1979	CHEV	IMPALA	1	0	0	1	82	1%
1979	CHRY	LEBARON	1	0	0	1	26	4%
1979	DODG	B200	1	0	0	1	15	7%
1979	DODG	DIPLOMAT	1	0	0	1	15	7%
1979	JAGU	S-TYPE	1	0	0	1	2	50%
1979	MAZD	RX7	1	0	0	1	16	6%
1979	OLDS	88	1	0	0	1	31	3%
1979	OLDS	CUTLASS	2	0	0	2	147	1%
1979	OLDS	DELTA 88	1	0	0	1	92	1%
1979	PONT	BONNEVILLE	1	0	0	1	52	2%
1979	PONT	FIREBIRD	1	0	0	1	105	1%
1977	BUIC	LESABRE	2	0	0	2	75	3%
1977	CADI	DEVILLE	1	0	0	1	80	1%
1977	CHEV	C20	1	0	0	1	45	2%
1977	CHEV	CAPRICE	1	0	0	1	111	1%
1977	CHEV	CORVETTE	1	0	0	1	133	1%
1977	DODG	B150	1	0	0	1	7	14%
1975	CADI	DEVILLE	1	0	0	1	13	8%
1975	PONT	GRANDVILLE	1	0	0	1	9	11%
1973	CHEV	NOVA	1	0	0	1	28	4%
1973	GMC	1500	1	0	0	1	3	33%
1971	OLDS	TORONADO	1	0	0	1	2	50%

# **Appendix B – Emission Reductions**

- **B1 – IM240 Tests**
  - **Station Based Tests**
  - **RapidScreen Audit Vehicles**
- **B2 – Enhanced Idle Tests**
  - **Station Based Tests**
  - **RapidScreen Audit Vehicles**
- **B3 – Basic Idle Tests**
  - **Station Based Tests**
  - **RapidScreen Audit Vehicles**
- **B4 – Summary**

## Appendix B Notes and Assumptions

**Unresolved remaining in the area** – Vehicles that do not complete an inspection cycle by passing the inspection or obtaining a waiver are termed “unresolved”. In Arizona and Colorado studies, some of these vehicles have been found continuing to operate in the I/M program area. In this report it has been assumed that one third of these vehicles continue to operate in the I/M area and two thirds are either scrapped or transfer out of the area.

**Model Year/Type** – Vehicles are grouped by model year and type. Type “P” are light duty passenger vehicles (LDGV) and type “T” are light duty trucks (LDGT). On pages showing results for Enhanced and Basic Idle tests, results for model year 1980 and older vehicles are included in the first section of the table along with the results for the 1981 model vehicles.

**First Result – Last Result** – The results of the first I/M test of the vehicle performed between January 2001 and December 2001 and the last I/M test of the vehicle performed between January 2001 and February 2002. The purpose of the earlier cutoff date for initial tests vs. retests is to limit the number of open repair and retest cycles.

**Initial/Final HC/CO/NOx** – Average tailpipe test emissions values. Tailpipe test results are in grams per mile for IM240 tests and in ppm HC and percent CO for idle tests.

The pass/fail/waiver result is the result for the whole I/M result including the gas cap pressure test. In instances where a vehicle initially fails the gas cap pressure test but is not a high tailpipe emitter, the tailpipe emissions recorded on the final test can be higher than the tailpipe emissions recorded on the initial test. Minor variations in test results on the same vehicle are normal and not significant provided the variation is small compared to the test standard.

## Appendix B1 IM240 Test Emissions Reductions

Unresolved fails remaining in area

Model Year/Type	First Result	Last Result	Vehicles	Initial			Final			Reduction %			
				HC	CO	NOX	HC	CO	NOX	HC	CO	NOX	
1981 P	Pass	-	1,043	0.87	13.15	2.06	0.87	13.15	2.06	0.0%	0.0%	0.0%	
	Fail	Pass	274	16.5%	2.92	50.93	2.38	1.03	15.91	1.95	64.7%	68.8%	18.1%
	Fail	Unresolv.	136	8.2%	6.64	99.75	2.15	2.29	34.26	0.71	65.6%	65.7%	67.2%
	Fail	Waiver	204	12.3%	5.60	99.58	2.45	4.98	93.00	2.27	11.0%	6.6%	7.3%
Total	Fail%		1,657	37.1%	2.26	37.15	2.17	1.52	25.17	1.96	32.9%	32.2%	9.8%
1982 P	Pass	-	386	0.93	11.94	2.49	0.93	11.94	2.49	0.0%	0.0%	0.0%	
	Fail	Pass	83	13.8%	2.91	51.51	2.36	0.96	13.43	1.87	66.9%	73.9%	20.8%
	Fail	Unresolv.	78	12.9%	6.75	100.97	2.22	2.38	35.43	0.65	64.7%	64.9%	70.6%
	Fail	Waiver	56	9.3%	5.20	82.01	2.89	5.53	84.34	2.27	-6.4%	-2.8%	21.2%
Total	Fail%		603	36.0%	2.35	35.41	2.47	1.55	21.91	2.15	34.2%	38.1%	13.2%
1983 P	Pass	-	2,747	0.83	9.78	2.40	0.83	9.78	2.40	0.0%	0.0%	0.0%	
	Fail	Pass	504	13.3%	2.89	44.96	2.67	0.94	11.34	2.45	67.3%	74.8%	8.3%
	Fail	Unresolv.	244	6.4%	5.42	96.87	2.19	1.74	31.47	0.76	67.8%	67.5%	65.5%
	Fail	Waiver	295	7.8%	5.81	85.10	2.47	5.24	81.00	2.45	9.8%	4.8%	1.1%
Total	Fail%		3,790	27.5%	1.79	25.93	2.43	1.25	16.93	2.30	30.2%	34.7%	5.1%
1984 P	Pass	-	1,501	0.90	10.21	2.40	0.90	10.21	2.40	0.0%	0.0%	0.0%	
	Fail	Pass	249	11.7%	3.20	49.29	2.49	0.95	10.80	2.31	70.2%	78.1%	7.5%
	Fail	Unresolv.	223	10.5%	5.12	80.55	2.59	1.62	26.19	0.87	68.4%	67.5%	66.3%
	Fail	Waiver	155	7.3%	5.23	86.74	2.27	4.97	84.76	2.22	4.8%	2.3%	2.1%
Total	Fail%		2,128	29.5%	1.92	27.73	2.42	1.28	17.39	2.21	33.7%	37.3%	8.5%
1985 P	Pass	-	8,003	0.91	9.41	2.27	0.91	9.41	2.27	0.0%	0.0%	0.0%	
	Fail	Pass	1,153	11.2%	3.12	47.06	2.51	0.98	10.23	2.30	68.5%	78.3%	8.4%
	Fail	Unresolv.	505	4.9%	5.45	80.22	2.45	1.80	26.02	0.80	67.0%	67.6%	67.2%
	Fail	Waiver	623	6.1%	5.72	82.56	2.43	4.93	74.79	2.41	13.8%	9.4%	0.8%
Total	Fail%		10,284	22.2%	1.67	21.54	2.32	1.20	14.28	2.21	27.9%	33.7%	4.6%
1986 P	Pass	-	3,383	0.86	7.83	2.19	0.86	7.83	2.19	0.0%	0.0%	0.0%	
	Fail	Pass	366	8.6%	3.40	41.12	2.61	0.92	8.86	2.26	72.9%	78.5%	13.2%
	Fail	Unresolv.	297	7.0%	5.19	64.56	2.77	1.71	20.63	0.91	67.1%	68.0%	67.2%
	Fail	Waiver	227	5.3%	5.66	83.36	2.42	5.24	79.54	2.37	7.5%	4.6%	1.9%
Total	Fail%		4,273	20.8%	1.63	18.63	2.27	1.16	12.61	2.11	29.2%	32.3%	7.1%
1987 P	Pass	-	13,872	0.78	7.06	2.15	0.78	7.06	2.15	0.0%	0.0%	0.0%	
	Fail	Pass	1,345	8.3%	3.13	41.07	2.41	0.93	8.75	2.27	70.3%	78.7%	5.8%
	Fail	Unresolv.	394	2.4%	6.20	69.77	2.68	2.04	23.04	0.86	67.2%	67.0%	67.8%
	Fail	Waiver	560	3.5%	5.08	68.14	2.59	4.77	65.41	2.51	6.1%	4.0%	3.1%
Total	Fail%		16,171	14.2%	1.26	13.53	2.20	0.96	9.61	2.14	23.5%	29.0%	2.7%
1988 P	Pass	-	5,745	0.77	6.61	2.01	0.77	6.61	2.01	0.0%	0.0%	0.0%	
	Fail	Pass	427	6.5%	3.25	42.63	2.14	0.96	8.09	2.18	70.5%	81.0%	-2.0%
	Fail	Unresolv.	225	3.4%	6.26	65.49	2.48	2.10	21.35	0.82	66.5%	67.4%	66.7%
	Fail	Waiver	147	2.2%	6.34	71.28	2.21	6.32	70.35	2.27	0.2%	1.3%	-2.4%
Total	Fail%		6,544	12.2%	1.25	12.44	2.04	0.95	8.65	1.99	23.5%	30.5%	2.6%
1989 P	Pass	-	24,015	0.73	6.45	1.97	0.73	6.45	1.97	0.0%	0.0%	0.0%	
	Fail	Pass	1,377	5.3%	3.08	41.63	2.13	0.87	7.61	2.10	71.7%	81.7%	1.8%
	Fail	Unresolv.	289	1.1%	6.07	65.95	2.79	1.98	22.15	0.90	67.4%	66.4%	67.8%
	Fail	Waiver	345	1.3%	6.29	70.46	2.77	5.65	60.07	2.65	10.2%	14.8%	4.2%
Total	Fail%		26,026	7.7%	0.98	9.82	2.00	0.81	7.40	1.97	17.4%	24.7%	1.2%
1990 P	Pass	-	7,702	0.73	6.65	2.04	0.73	6.65	2.04	0.0%	0.0%	0.0%	
	Fail	Pass	477	5.6%	3.27	43.04	2.28	0.86	7.95	2.16	73.7%	81.5%	5.1%
	Fail	Unresolv.	183	2.2%	6.12	69.11	2.52	1.93	22.19	0.84	68.4%	67.9%	66.5%
	Fail	Waiver	112	1.3%	6.10	72.37	2.81	5.09	64.20	2.79	16.5%	11.3%	0.4%
Total	Fail%		8,474	9.1%	1.06	10.91	2.08	0.82	7.82	2.03	22.6%	28.4%	2.1%
1991 P	Pass	-	27,606	0.46	5.22	1.54	0.46	5.22	1.54	0.0%	0.0%	0.0%	
	Fail	Pass	2,309	7.3%	1.94	28.83	2.43	0.54	5.93	1.66	72.2%	79.4%	31.7%
	Fail	Unresolv.	633	2.0%	3.32	35.19	3.16	1.09	11.84	1.04	67.3%	66.4%	67.0%
	Fail	Waiver	1,066	3.4%	3.09	33.40	3.30	2.72	29.46	3.29	11.7%	11.8%	0.5%
Total	Fail%		31,614	12.7%	0.71	8.50	1.69	0.55	6.23	1.60	22.3%	26.7%	5.8%
1992 P	Pass	-	8,247	0.47	5.38	1.43	0.47	5.38	1.43	0.0%	0.0%	0.0%	
	Fail	Pass	612	6.6%	2.07	34.25	2.03	0.55	6.15	1.55	73.6%	82.1%	23.7%
	Fail	Unresolv.	237	2.5%	3.13	35.54	2.84	1.07	12.47	0.94	65.9%	64.9%	67.1%
	Fail	Waiver	242	2.6%	3.42	31.21	2.83	2.94	28.67	2.81	14.0%	8.1%	0.7%
Total	Fail%		9,338	11.7%	0.72	8.71	1.54	0.55	6.22	1.46	23.0%	28.6%	5.2%

## Appendix B1 IM240 Test Emissions Reductions

Unresolved fails remaining in area					33%						Reduction %			
Model Year	Type	First Result	Last Result	Vehicles	Initial HC	CO	NOX	Final HC	CO	NOX	HC	CO	NOX	
1993	Pass	-		34,209	0.42	4.77	1.39	0.42	4.77	1.39	0.0%	0.0%	0.0%	
	P Fail	Pass		1,682	4.6%	2.01	30.65	2.00	0.52	5.80	1.51	74.3%	81.1%	24.6%
	P Fail	Unresolv.		314	0.9%	3.53	37.01	2.95	1.11	11.50	0.97	68.5%	68.9%	67.0%
	P Fail	Waiver		534	1.5%	3.11	33.76	3.09	2.87	30.74	3.00	7.8%	8.9%	2.9%
Total	Fail%			36,739	6.9%	0.56	6.65	1.46	0.47	5.25	1.42	16.6%	21.0%	2.8%
1994	Pass	-		9,219	0.36	3.94	1.09	0.36	3.94	1.09	0.0%	0.0%	0.0%	
	P Fail	Pass		383	3.9%	1.58	19.82	1.59	0.47	4.66	1.30	70.3%	76.5%	18.4%
	P Fail	Unresolv.		87	0.9%	3.81	33.01	2.39	1.25	12.11	0.81	67.1%	63.3%	66.1%
	P Fail	Waiver		79	0.8%	3.49	24.18	2.68	3.45	25.37	2.69	1.0%	-4.9%	-0.3%
Total	Fail%			9,768	5.6%	0.46	4.98	1.14	0.39	4.21	1.11	14.5%	15.5%	2.2%
1995	Pass	-		41,891	0.27	2.91	0.88	0.27	2.91	0.88	0.0%	0.0%	0.0%	
	P Fail	Pass		987	2.3%	1.63	21.18	1.37	0.35	3.56	1.04	78.9%	83.2%	23.6%
	P Fail	Unresolv.		116	0.3%	3.82	22.49	2.58	1.15	7.25	0.82	70.0%	67.8%	68.2%
	P Fail	Waiver		178	0.4%	3.62	30.65	2.44	2.95	29.42	2.46	18.5%	4.0%	-0.8%
Total	Fail%			43,172	3.0%	0.32	3.49	0.90	0.29	3.05	0.89	12.1%	12.8%	1.3%
1996	Pass	-		9,609	0.20	2.38	0.68	0.20	2.38	0.68	0.0%	0.0%	0.0%	
	P Fail	Pass		217	2.2%	0.88	13.29	1.08	0.27	3.28	0.81	68.7%	75.3%	25.0%
	P Fail	Unresolv.		19	0.2%	1.47	23.53	2.02	0.52	8.41	0.74	64.7%	64.3%	63.2%
	P Fail	Waiver		16	0.2%	1.51	26.44	1.86	1.56	24.59	2.15	-3.8%	7.0%	-15.5%
Total	Fail%			9,861	2.6%	0.22	2.70	0.70	0.20	2.45	0.69	6.9%	9.3%	1.1%
1997	Pass	-		40,192	0.15	1.82	0.59	0.15	1.82	0.59	0.0%	0.0%	0.0%	
	P Fail	Pass		485	1.2%	0.83	13.38	0.95	0.20	2.49	0.71	76.4%	81.4%	25.8%
	P Fail	Unresolv.		23	0.1%	3.06	28.11	2.03	0.96	8.33	0.70	68.5%	70.4%	65.3%
	P Fail	Waiver		15	0.0%	1.88	39.79	2.20	2.20	39.03	2.48	-16.8%	1.9%	-12.4%
Total	Fail%			40,715	1.3%	0.16	1.98	0.60	0.16	1.84	0.60	5.3%	7.1%	0.6%
1998	Pass	-		13,552	0.13	1.70	0.44	0.13	1.70	0.44	0.0%	0.0%	0.0%	
	P Fail	Pass		149	1.1%	0.50	7.84	0.58	0.14	2.22	0.52	72.4%	71.6%	9.2%
	P Fail	Unresolv.		3	0.0%	0.68	11.77	3.36	0.40	10.36	0.71	40.8%	12.0%	78.9%
	P Fail	Waiver		0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00			
Total	Fail%			13,704	1.1%	0.13	1.77	0.44	0.13	1.71	0.44	3.0%	3.5%	0.3%
1999	Pass	-		45,440	0.08	1.16	0.36	0.08	1.16	0.36	0.0%	0.0%	0.0%	
	P Fail	Pass		387	0.8%	0.45	11.40	0.49	0.08	1.32	0.38	82.2%	88.4%	23.2%
	P Fail	Unresolv.		11	0.0%	1.27	29.91	1.43	0.54	10.61	0.62	57.1%	64.5%	56.4%
	P Fail	Waiver		0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00			
Total	Fail%			45,838	0.9%	0.08	1.25	0.36	0.08	1.16	0.36	4.0%	7.2%	0.3%
2000	Pass	-		14,509	0.06	0.83	0.27	0.06	0.83	0.27	0.0%	0.0%	0.0%	
	P Fail	Pass		117	1.7%	0.25	3.59	0.21	0.05	0.87	0.25	79.9%	75.8%	-18.0%
	P Fail	Unresolv.		3	0.0%	0.92	33.18	0.28	0.30	10.95	0.09	67.0%	67.0%	67.0%
	P Fail	Waiver		0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00			
Total	Fail%			14,629	1.7%	0.06	0.86	0.27	0.06	0.84	0.27	2.9%	3.1%	-0.1%
2001	Pass	-		6,837	0.03	0.51	0.15	0.03	0.51	0.15	0.0%	0.0%	0.0%	
	P Fail	Pass		36	78.3%	0.05	1.95	0.19	0.03	0.54	0.17	46.8%	72.4%	8.1%
	P Fail	Unresolv.		2	4.3%	1.73	0.01	0.03	0.59	0.10	0.04	66.1%	-1591.4%	-10.9%
	P Fail	Waiver		0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00			
Total	Fail%			6,875	82.6%	0.03	0.51	0.15	0.03	0.51	0.15	1.5%	1.4%	0.1%
2002	Pass	-		45	0.02	0.28	0.12	0.02	0.28	0.12	0.0%	0.0%	0.0%	
	P Fail	Pass		1	2.2%	0.00	0.07	0.07	0.00	0.00	0.12	100.0%	100.0%	-61.6%
	P Fail	Unresolv.		0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00			
	P Fail	Waiver		0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00			
Total	Fail%			46	2.2%	0.02	0.28	0.12	0.02	0.28	0.12	0.1%	0.6%	-0.8%
<b>Total Passenger Vehicles</b>														
All	Pass	-		319,753	0.35	3.76	1.09	0.35	3.76	1.09	0.0%	0.0%	0.0%	
P	Fail	Pass		13,620	4.0%	2.33	33.54	2.06	0.66	6.89	1.73	71.7%	79.5%	16.1%
P	Fail	Unresolv.		4,022	1.2%	4.91	61.17	2.67	1.61	20.15	0.88	67.3%	67.1%	67.1%
P	Fail	Waiver		4,854	1.4%	4.57	58.60	2.76	4.13	54.23	2.71	9.7%	7.4%	1.8%
Total	Fail%			342,249	6.6%	0.55	6.39	1.17	0.43	4.79	1.14	20.4%	25.1%	3.0%
1981	Pass	-		484	2.25	31.86	3.24	2.25	31.86	3.24	0.0%	0.0%	0.0%	
	T Fail	Pass		118	18.1%	4.49	53.12	4.00	2.54	35.60	3.44	43.4%	33.0%	14.0%
	T Fail	Unresolv.		28	4.3%	10.97	143.98	3.72	3.01	40.12	1.42	72.6%	72.1%	61.8%
	T Fail	Waiver		23	3.5%	13.49	133.85	2.97	12.43	120.21	3.08	7.9%	10.2%	-3.7%
Total	Fail%			653	25.9%	3.43	44.10	3.39	2.70	36.00	3.19	21.3%	18.4%	5.8%

## Appendix B1 IM240 Test Emissions Reductions

Unresolved fails remaining in area				33%						Reduction %			
Model Year/Type	First Result	Last Result	Vehicles	Initial HC	Initial CO	Initial NOX	Final HC	Final CO	Final NOX	HC Reduction %	CO Reduction %	NOX Reduction %	
1982 T	Pass	-	216	2.47	29.00	3.20	2.47	29.00	3.20	0.0%	0.0%	0.0%	
	Fail	Pass	61	5.90	57.94	3.46	2.82	37.82	3.05	52.3%	34.7%	11.8%	
	Fail	Unresolv.	14	8.75	87.63	6.08	2.96	28.58	1.86	66.2%	67.4%	69.3%	
	Fail	Waiver	11	5.42	135.51	1.87	7.55	145.45	1.27	-39.3%	-7.3%	31.8%	
Total	Fail%		302	28.5%	3.56	41.45	3.34	2.75	35.01	3.04	22.9%	15.5%	9.0%
1983 T	Pass	-	1,250	2.42	32.18	3.07	2.42	32.18	3.07	0.0%	0.0%	0.0%	
	Fail	Pass	261	4.42	53.15	3.32	2.56	35.68	3.03	42.1%	32.9%	8.8%	
	Fail	Unresolv.	42	8.83	114.48	3.14	3.18	36.81	1.01	64.0%	67.8%	67.8%	
	Fail	Waiver	49	8.98	142.71	1.96	9.12	143.71	1.72	-1.6%	-0.7%	12.2%	
Total	Fail%		1,602	22.0%	3.11	41.14	3.08	2.67	36.29	2.97	14.3%	11.8%	3.6%
1984 T	Pass	-	497	1.48	20.69	2.76	1.48	20.69	2.76	0.0%	0.0%	0.0%	
	Fail	Pass	137	4.11	59.63	3.14	1.82	27.38	3.12	55.6%	54.1%	0.8%	
	Fail	Unresolv.	99	8.60	104.25	2.95	2.88	34.13	0.99	66.6%	67.3%	66.3%	
	Fail	Waiver	83	7.34	104.30	2.66	7.17	101.63	2.73	2.3%	2.6%	-2.6%	
Total	Fail%		816	39.1%	3.38	45.87	2.83	2.29	31.68	2.60	32.4%	30.9%	8.3%
1985 T	Pass	-	2,734	1.37	19.42	2.67	1.37	19.42	2.67	0.0%	0.0%	0.0%	
	Fail	Pass	630	4.30	52.93	2.94	1.79	26.30	2.72	58.3%	50.3%	7.5%	
	Fail	Unresolv.	207	7.64	89.80	3.16	2.47	27.45	1.11	67.7%	69.4%	64.9%	
	Fail	Waiver	314	7.02	93.44	2.83	5.85	86.13	2.89	16.7%	7.8%	-2.2%	
Total	Fail%		3,885	29.6%	2.64	34.59	2.75	1.86	26.36	2.61	29.4%	23.8%	5.1%
1986 T	Pass	-	1,183	1.33	15.38	2.73	1.33	15.38	2.73	0.0%	0.0%	0.0%	
	Fail	Pass	193	4.66	48.90	2.73	1.79	24.45	2.41	61.6%	50.0%	11.5%	
	Fail	Unresolv.	101	6.38	83.90	3.03	2.17	29.00	1.03	66.1%	65.4%	66.0%	
	Fail	Waiver	87	7.69	94.66	2.53	6.63	88.68	2.65	13.8%	6.3%	-4.5%	
Total	Fail%		1,564	24.4%	2.42	28.35	2.74	1.73	21.46	2.58	28.3%	24.3%	5.9%
1987 T	Pass	-	5,733	1.28	12.94	2.74	1.28	12.94	2.74	0.0%	0.0%	0.0%	
	Fail	Pass	580	4.09	45.14	2.92	1.59	19.66	2.76	61.2%	56.5%	5.6%	
	Fail	Unresolv.	112	6.59	80.36	3.08	2.14	26.29	1.05	67.5%	67.3%	66.0%	
	Fail	Waiver	239	6.72	78.33	3.00	6.19	75.76	2.94	7.9%	3.3%	1.8%	
Total	Fail%		6,664	14.0%	1.81	19.22	2.77	1.50	16.00	2.72	17.2%	16.7%	1.8%
1988 T	Pass	-	2,123	1.13	10.75	2.65	1.13	10.75	2.65	0.0%	0.0%	0.0%	
	Fail	Pass	165	5.06	43.14	3.42	1.43	13.64	2.63	71.7%	68.4%	23.0%	
	Fail	Unresolv.	93	6.60	56.06	3.90	2.24	18.54	1.31	66.1%	66.9%	66.4%	
	Fail	Waiver	78	7.62	58.66	3.91	7.38	60.12	3.65	3.0%	-2.5%	6.9%	
Total	Fail%		2,459	13.7%	1.81	16.16	2.79	1.39	12.80	2.63	23.0%	20.8%	5.7%
1989 T	Pass	-	9,516	1.13	10.95	2.54	1.13	10.95	2.54	0.0%	0.0%	0.0%	
	Fail	Pass	719	3.98	43.51	3.50	1.35	13.13	2.72	66.1%	69.8%	22.1%	
	Fail	Unresolv.	169	6.91	73.11	3.51	2.36	23.78	1.19	65.9%	67.5%	66.1%	
	Fail	Waiver	235	7.19	74.85	3.53	6.35	68.78	3.42	11.6%	8.1%	3.1%	
Total	Fail%		10,639	10.6%	1.55	15.55	2.64	1.28	12.58	2.55	17.3%	19.1%	3.5%
1990 T	Pass	-	2,297	1.08	10.24	2.61	1.08	10.24	2.61	0.0%	0.0%	0.0%	
	Fail	Pass	155	4.21	48.06	3.33	1.37	12.79	2.71	67.4%	73.4%	18.8%	
	Fail	Unresolv.	48	8.30	77.64	3.09	2.56	24.34	1.05	69.1%	68.6%	66.2%	
	Fail	Waiver	50	8.54	76.22	3.25	6.82	73.59	3.33	20.1%	3.5%	-2.5%	
Total	Fail%		2,550	9.9%	1.55	15.10	2.68	1.24	11.90	2.60	20.3%	21.2%	2.8%
1991 T	Pass	-	12,224	0.92	9.33	2.15	0.92	9.33	2.15	0.0%	0.0%	0.0%	
	Fail	Pass	729	3.12	36.37	2.90	1.10	9.29	2.24	64.8%	74.4%	22.8%	
	Fail	Unresolv.	108	6.16	56.78	3.24	2.11	20.12	1.06	65.8%	64.6%	67.3%	
	Fail	Waiver	197	6.01	67.73	2.98	5.83	64.51	2.89	3.0%	4.7%	2.8%	
Total	Fail%		13,258	7.8%	1.16	12.07	2.22	1.01	10.24	2.16	12.7%	15.2%	2.5%
1992 T	Pass	-	3,200	0.90	8.90	2.24	0.90	8.90	2.24	0.0%	0.0%	0.0%	
	Fail	Pass	169	2.83	37.93	2.20	0.97	9.93	2.17	65.7%	73.8%	1.3%	
	Fail	Unresolv.	57	5.20	59.22	2.75	1.77	18.97	0.88	66.0%	68.0%	67.9%	
	Fail	Waiver	46	7.00	50.24	2.38	5.44	43.96	2.47	22.2%	12.5%	-3.9%	
Total	Fail%		3,472	7.8%	1.14	11.69	2.25	0.97	9.58	2.22	14.7%	18.0%	1.4%
1993 T	Pass	-	16,751	0.84	7.88	2.32	0.84	7.88	2.32	0.0%	0.0%	0.0%	
	Fail	Pass	627	2.99	35.69	2.74	1.01	9.08	2.33	66.2%	74.6%	14.8%	
	Fail	Unresolv.	65	5.89	46.57	3.36	1.73	14.90	1.14	70.7%	68.0%	66.0%	
	Fail	Waiver	132	5.79	52.10	3.25	5.23	54.29	2.81	9.8%	-4.2%	13.5%	
Total	Fail%		17,575	4.7%	0.97	9.34	2.34	0.88	8.29	2.32	9.3%	11.2%	1.1%

## Appendix B1 IM240 Test Emissions Reductions

Unresolved fails remaining in area					33%						Reduction %		
Model Year/Type	First Result	Last Result	Vehicles		Initial HC	CO	NOX	Final HC	CO	NOX	HC	CO	NOX
1994 T	Pass	-	4,762	3.1%	0.73	7.28	1.91	0.73	7.28	1.91	0.0%	0.0%	0.0%
	Fail	Pass	154		2.24	20.70	2.82	0.95	8.81	2.21	57.7%	57.4%	21.8%
	Fail	Unresolv.	16	0.3%	4.20	36.21	3.83	1.43	12.29	1.34	66.0%	66.1%	65.0%
	Fail	Waiver	36	0.7%	5.09	41.26	4.21	4.94	39.33	4.26	2.9%	4.7%	-1.2%
Total	Fail%		4,968	4.1%	0.82	8.03	1.96	0.77	7.57	1.94	6.1%	5.7%	1.4%
1995 T	Pass	-	21,134		0.63	6.75	1.84	0.63	6.75	1.84	0.0%	0.0%	0.0%
	Fail	Pass	531	2.4%	1.86	18.74	2.56	0.84	8.17	2.07	54.5%	56.4%	19.1%
	Fail	Unresolv.	42	0.2%	4.00	34.38	3.39	1.35	11.30	1.06	66.1%	67.1%	68.8%
	Fail	Waiver	76	0.3%	4.69	38.04	3.71	4.50	39.64	3.82	4.0%	-4.2%	-3.1%
Total	Fail%		21,783	3.0%	0.68	7.20	1.87	0.65	6.91	1.86	4.5%	4.1%	0.9%
1996 T	Pass	-	4,879		0.27	3.55	1.06	0.27	3.55	1.06	0.0%	0.0%	0.0%
	Fail	Pass	109	2.2%	0.56	9.17	1.74	0.35	4.52	1.18	36.7%	50.7%	32.1%
	Fail	Unresolv.	14	0.3%	1.43	16.52	3.98	0.45	4.80	1.33	68.5%	70.9%	66.5%
	Fail	Waiver	9	0.2%	1.63	19.87	4.37	1.92	25.65	4.17	-17.9%	-29.1%	4.5%
Total	Fail%		5,011	2.6%	0.28	3.74	1.09	0.27	3.62	1.07	2.4%	3.3%	1.8%
1997 T	Pass	-	22,115		0.21	3.14	0.97	0.21	3.14	0.97	0.0%	0.0%	0.0%
	Fail	Pass	357	1.6%	0.57	11.32	1.79	0.23	4.06	1.22	60.1%	64.1%	32.2%
	Fail	Unresolv.	23	0.1%	2.13	31.77	2.93	0.68	10.45	1.03	68.3%	67.1%	64.9%
	Fail	Waiver	8	0.0%	1.77	22.18	5.22	1.76	18.04	5.59	0.3%	18.6%	-7.2%
Total	Fail%		22,503	1.7%	0.22	3.31	0.98	0.21	3.17	0.97	3.1%	4.2%	1.1%
1998 T	Pass	-	8,729		0.17	2.48	0.81	0.17	2.48	0.81	0.0%	0.0%	0.0%
	Fail	Pass	64	0.7%	0.29	3.83	1.41	0.15	2.49	0.95	49.4%	34.9%	32.9%
	Fail	Unresolv.	5	0.1%	0.61	13.83	1.41	0.19	4.42	0.38	69.1%	68.0%	73.0%
	Fail	Waiver	1	0.0%	1.39	19.60	5.77	2.29	22.00	5.10	-64.7%	-12.3%	11.7%
Total	Fail%		8,799	0.8%	0.18	2.50	0.82	0.17	2.49	0.81	0.7%	0.6%	0.5%
1999 T	Pass	-	30,101		0.12	1.51	0.60	0.12	1.51	0.60	0.0%	0.0%	0.0%
	Fail	Pass	133	0.4%	0.60	7.51	1.05	0.16	2.00	0.81	72.9%	73.3%	22.5%
	Fail	Unresolv.	4	0.0%	1.05	8.62	3.16	0.34	2.50	0.86	67.4%	71.0%	72.7%
	Fail	Waiver	0	0.0%									
Total	Fail%		30,238	0.5%	0.12	1.54	0.60	0.12	1.51	0.60	1.7%	1.6%	0.2%
2000 T	Pass	-	7,126		0.09	1.16	0.43	0.09	1.16	0.43	0.0%	0.0%	0.0%
	Fail	Pass	36	0.5%	0.25	3.87	0.62	0.16	2.42	0.68	37.8%	37.5%	-9.3%
	Fail	Unresolv.	2	0.0%	0.03	0.94	0.12	0.18	1.13	0.27	-404.9%	-19.1%	-123.7%
	Fail	Waiver	0	0.0%									
Total	Fail%		7,164	0.5%	0.09	1.18	0.43	0.09	1.17	0.43	0.5%	0.6%	-0.1%
2001 T	Pass	-	2,567		0.05	0.96	0.27	0.05	0.96	0.27	0.0%	0.0%	0.0%
	Fail	Pass	17	0.7%	0.05	1.22	0.25	0.08	2.38	0.55	-65.1%	-95.5%	-119.1%
	Fail	Unresolv.	2	0.1%	0.74	6.84	1.73	0.24	2.26	0.57	67.0%	67.0%	67.0%
	Fail	Waiver	0	0.0%									
Total	Fail%		2,586	0.7%	0.05	0.96	0.27	0.05	0.97	0.27	0.3%	-0.4%	-0.4%
2002 T	Pass	-	43		0.05	1.21	0.20	0.05	1.21	0.20	0.0%	0.0%	0.0%
	Fail	Pass	0	0.0%									
	Fail	Unresolv.	0	0.0%									
	Fail	Waiver	0	0.0%									
Total	Fail%		43	0.0%	0.05	1.21	0.20	0.05	1.21	0.20	0.0%	0.0%	0.0%
<b>Total Trucks</b>													
All	Pass	-	159,664		0.57	6.17	1.54	0.57	6.17	1.54	0.0%	0.0%	0.0%
T	Fail	Pass	5,945	3.5%	3.24	37.27	2.81	1.27	14.85	2.37	60.8%	60.2%	15.9%
	Fail	Unresolv.	1,251	0.7%	6.76	74.65	3.28	2.23	24.10	1.11	67.0%	67.7%	66.2%
	Fail	Waiver	1,674	1.0%	6.84	77.52	3.09	6.19	74.05	3.03	9.5%	4.5%	1.8%
Total	Fail%		168,534	5.3%	0.77	8.48	1.61	0.66	7.28	1.58	14.2%	14.2%	2.0%
<b>Fleet Total</b>													
All	Pass	-	479,417		0.43	4.56	1.24	0.43	4.56	1.24	0.0%	0.0%	0.0%
All	Fail	Pass	19,565	3.8%	2.61	34.67	2.29	0.85	9.31	1.92	67.6%	73.2%	16.1%
	Fail	Unresolv.	5,273	1.0%	5.35	64.36	2.81	1.76	21.09	0.93	67.2%	67.2%	66.8%
	Fail	Waiver	6,528	1.3%	5.15	63.45	2.85	4.65	59.32	2.80	9.7%	6.5%	1.8%
Total	Fail%		510,783	6.1%	0.62	7.08	1.32	0.51	5.61	1.28	17.9%	20.8%	2.6%

### Appendix B1 IM240 Test Emissions Reductions - RapidScreen Audit Vehicles

Unresolved fails remaining in area

Model Year/Type	First Result	Last Result	Vehicles	33%			HC	Initial CO	NOX	HC	Final CO	NOX	Reduction %			
				HC	CO	NOX							HC	CO	NOX	
1981 P	Pass	-	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	
	Fail	Pass	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	
	Fail	Unresolv.	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	
	Fail	Waiver	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	
Total	Fail%		0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	
1982 P	Pass	-	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	
	Fail	Pass	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	
	Fail	Unresolv.	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	
	Fail	Waiver	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	
Total	Fail%		0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	
1983 P	Pass	-	2	0.74	3.65	2.54	0.74	3.65	2.54	0.74	3.65	2.54	0.0%	0.0%	0.0%	
	Fail	Pass	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	
	Fail	Unresolv.	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	
	Fail	Waiver	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	
Total	Fail%		2	0.0%	0.74	3.65	2.54	0.74	3.65	2.54	0.74	3.65	2.54	0.0%	0.0%	0.0%
1984 P	Pass	-	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	
	Fail	Pass	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	
	Fail	Unresolv.	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	
	Fail	Waiver	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	
Total	Fail%		0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	
1985 P	Pass	-	11	0.66	4.17	1.53	0.66	4.17	1.53	0.66	4.17	1.53	0.0%	0.0%	0.0%	
	Fail	Pass	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	
	Fail	Unresolv.	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	
	Fail	Waiver	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	
Total	Fail%		11	0.0%	0.66	4.17	1.53	0.66	4.17	1.53	0.66	4.17	1.53	0.0%	0.0%	0.0%
1986 P	Pass	-	2	0.28	3.29	3.05	0.28	3.29	3.05	0.28	3.29	3.05	0.0%	0.0%	0.0%	
	Fail	Pass	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	
	Fail	Unresolv.	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	
	Fail	Waiver	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	
Total	Fail%		2	0.0%	0.28	3.29	3.05	0.28	3.29	3.05	0.28	3.29	3.05	0.0%	0.0%	0.0%
1987 P	Pass	-	19	0.64	5.93	2.19	0.64	5.93	2.19	0.64	5.93	2.19	0.0%	0.0%	0.0%	
	Fail	Pass	3	13.6%	2.15	38.50	2.39	0.98	19.38	1.58	54.2%	49.7%	33.8%			
	Fail	Unresolv.	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	
	Fail	Waiver	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	
Total	Fail%		22	13.6%	0.85	10.37	2.22	0.69	7.76	2.11	18.8%	25.1%	5.0%			
1988 P	Pass	-	1	0.38	3.98	2.13	0.38	3.98	2.13	0.38	3.98	2.13	0.0%	0.0%	0.0%	
	Fail	Pass	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	
	Fail	Unresolv.	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	
	Fail	Waiver	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	
Total	Fail%		1	0.0%	0.38	3.98	2.13	0.38	3.98	2.13	0.38	3.98	2.13	0.0%	0.0%	0.0%
1989 P	Pass	-	74	0.64	4.75	1.54	0.64	4.75	1.54	0.64	4.75	1.54	0.0%	0.0%	0.0%	
	Fail	Pass	4	5.1%	6.11	23.11	1.82	1.37	8.26	1.57	77.7%	64.2%	13.7%			
	Fail	Unresolv.	1	1.3%	12.28	39.32	4.03	4.05	12.97	1.33	67.0%	67.0%	67.0%			
	Fail	Waiver	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	
Total	Fail%		79	6.3%	1.06	6.11	1.58	0.72	5.03	1.54	32.4%	17.7%	3.0%			
1990 P	Pass	-	13	0.77	6.17	2.35	0.77	6.17	2.35	0.77	6.17	2.35	0.0%	0.0%	0.0%	
	Fail	Pass	3	18.8%	1.66	32.26	1.81	1.01	11.49	2.31	39.1%	64.4%	-27.8%			
	Fail	Unresolv.	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	
	Fail	Waiver	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	
Total	Fail%		16	18.8%	0.94	11.06	2.25	0.82	7.17	2.35	13.0%	35.2%	-4.2%			
1991 P	Pass	-	123	0.42	4.88	1.45	0.42	4.88	1.45	0.42	4.88	1.45	0.0%	0.0%	0.0%	
	Fail	Pass	6	4.5%	1.56	26.30	1.54	0.52	5.05	1.76	66.6%	80.8%	-14.5%			
	Fail	Unresolv.	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	
	Fail	Waiver	5	3.7%	2.17	26.82	2.83	2.16	17.97	2.52	0.5%	33.0%	11.2%			
Total	Fail%		134	8.2%	0.54	6.66	1.50	0.49	5.38	1.50	8.7%	19.2%	0.1%			
1992 P	Pass	-	20	0.44	4.18	1.50	0.44	4.18	1.50	0.44	4.18	1.50	0.0%	0.0%	0.0%	
	Fail	Pass	3	13.0%	1.99	12.06	1.12	0.32	4.09	1.04	83.8%	66.1%	7.1%			
	Fail	Unresolv.	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	
	Fail	Waiver	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	
Total	Fail%		23	13.0%	0.65	5.21	1.45	0.43	4.17	1.44	33.7%	19.9%	0.7%			

### Appendix B1 IM240 Test Emissions Reductions - RapidScreen Audit Vehicles

Unresolved fails remaining in area

Model Year/Type	First Result	Last Result	Vehicles	33%			Final			Reduction %			
				HC	Initial CO	NOX	HC	CO	NOX	HC	CO	NOX	
1993 P	Pass	-	226	0.41	4.60	1.45	0.41	4.60	1.45	0.0%	0.0%	0.0%	
	Fail	Pass	3	1.3%	1.13	16.06	1.87	0.46	3.67	1.44	59.8%	77.1%	23.0%
	Fail	Unresolv.	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%
	Fail	Waiver	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%
Total	Fail%		229	1.3%	0.41	4.75	1.46	0.41	4.58	1.45	2.1%	3.4%	0.4%
1994 P	Pass	-	30	0.36	4.08	1.15	0.36	4.08	1.15	0.0%	0.0%	0.0%	0.0%
	Fail	Pass	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%
	Fail	Unresolv.	1	3.1%	2.50	5.79	3.78	0.83	1.91	1.25	67.0%	67.0%	67.0%
	Fail	Waiver	1	3.1%	2.59	14.16	4.19	2.18	11.77	3.24	15.7%	16.8%	22.7%
Total	Fail%		32	6.3%	0.50	4.45	1.33	0.43	4.26	1.22	13.0%	4.4%	8.2%
1995 P	Pass	-	412	0.27	2.79	0.85	0.27	2.79	0.85	0.0%	0.0%	0.0%	0.0%
	Fail	Pass	4	1.0%	0.75	14.22	1.61	0.40	4.05	1.55	46.6%	71.5%	3.5%
	Fail	Unresolv.	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%
	Fail	Waiver	1	0.2%	2.50	8.34	2.11	2.69	10.44	2.23	-7.8%	-25.2%	-5.8%
Total	Fail%		417	1.2%	0.28	2.91	0.86	0.28	2.82	0.86	1.0%	3.2%	0.0%
1996 P	Pass	-	45	0.13	2.02	0.50	0.13	2.02	0.50	0.0%	0.0%	0.0%	0.0%
	Fail	Pass	1	2.2%	0.12	2.17	0.36	0.15	2.02	0.80	-22.2%	6.9%	-120.8%
	Fail	Unresolv.	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%
	Fail	Waiver	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%
Total	Fail%		46	2.2%	0.13	2.02	0.50	0.13	2.02	0.51	-0.5%	0.2%	-1.9%
1997 P	Pass	-	477	0.15	1.81	0.58	0.15	1.81	0.58	0.0%	0.0%	0.0%	0.0%
	Fail	Pass	6	1.2%	0.63	2.62	1.43	0.25	2.24	0.93	60.1%	14.6%	35.2%
	Fail	Unresolv.	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%
	Fail	Waiver	1	0.2%	0.47	19.36	0.60	0.55	25.08	0.78	-17.6%	-29.6%	-30.3%
Total	Fail%		484	1.4%	0.16	1.86	0.60	0.15	1.86	0.59	2.9%	-0.4%	1.0%
1998 P	Pass	-	60	0.15	2.00	0.56	0.15	2.00	0.56	0.0%	0.0%	0.0%	0.0%
	Fail	Pass	2	3.2%	0.10	12.02	0.54	0.27	2.06	0.83	-182.7%	82.9%	-55.8%
	Fail	Unresolv.	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%
	Fail	Waiver	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%
Total	Fail%		62	3.2%	0.15	2.32	0.56	0.16	2.00	0.57	-3.7%	13.8%	-1.7%
1999 P	Pass	-	501	0.08	1.21	0.37	0.08	1.21	0.37	0.0%	0.0%	0.0%	0.0%
	Fail	Pass	3	0.6%	0.03	1.37	0.28	0.03	1.21	0.20	24.0%	11.5%	27.9%
	Fail	Unresolv.	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%
	Fail	Waiver	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%
Total	Fail%		504	0.6%	0.08	1.22	0.37	0.08	1.21	0.36	0.1%	0.1%	0.1%
2000 P	Pass	-	6	0.19	1.23	0.36	0.19	1.23	0.36	0.0%	0.0%	0.0%	0.0%
	Fail	Pass	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%
	Fail	Unresolv.	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%
	Fail	Waiver	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%
Total	Fail%		6	0.0%	0.19	1.23	0.36	0.19	1.23	0.36	0.0%	0.0%	0.0%
2001 P	Pass	-	0	-	-	-	-	-	-	-	-	-	-
	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
2002 P	Pass	-	0	-	-	-	-	-	-	-	-	-	-
	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
<b>Total Passenger Vehicles</b>				0.24	2.62	0.82	0.24	2.62	0.82	0.0%	0.0%	0.0%	0.0%
All	Pass	-	2,022	1.63	17.10	1.46	0.55	5.75	1.34	66.4%	66.4%	8.2%	
P	Fail	Pass	38	1.8%	7.39	22.55	3.90	2.44	7.44	1.29	67.0%	67.0%	67.0%
	Fail	Unresolv.	2	0.1%	2.05	22.00	2.63	2.03	17.14	2.35	1.1%	22.1%	10.6%
Total	Fail%		2,070	2.3%	0.28	2.98	0.84	0.25	2.74	0.84	8.9%	8.1%	0.7%
1981 T	Pass	-	1	0.42	5.72	0.80	0.42	5.72	0.80	0.0%	0.0%	0.0%	0.0%
	Fail	Pass	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%
	Fail	Unresolv.	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%
	Fail	Waiver	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%
Total	Fail%		1	0.0%	0.42	5.72	0.80	0.42	5.72	0.80	0.0%	0.0%	0.0%

### Appendix B1 IM240 Test Emissions Reductions - RapidScreen Audit Vehicles

Unresolved fails remaining in area

Model Year/Type	First Result	Last Result	Vehicles	33%			HC	Initial CO	NOX	HC	Final CO	NOX	Reduction %			
													HC	CO	NOX	
1982 T	Pass	-	0		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	
	Fail	Pass	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	
	Fail	Unresolv.	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	
	Fail	Waiver	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	
Total	Fail%		0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	
1983 T	Pass	-	1		1.64	5.32	0.96	1.64	5.32	0.96	1.64	5.32	0.96	0.0%	0.0%	0.0%
	Fail	Pass	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	
	Fail	Unresolv.	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	
	Fail	Waiver	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	
Total	Fail%		1	0.0%	1.64	5.32	0.96	1.64	5.32	0.96	1.64	5.32	0.96	0.0%	0.0%	0.0%
1984 T	Pass	-	0		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	
	Fail	Pass	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	
	Fail	Unresolv.	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	
	Fail	Waiver	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	
Total	Fail%		0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	
1985 T	Pass	-	2		1.30	13.55	1.42	1.30	13.55	1.42	1.30	13.55	1.42	0.0%	0.0%	0.0%
	Fail	Pass	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	
	Fail	Unresolv.	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	
	Fail	Waiver	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	
Total	Fail%		2	0.0%	1.30	13.55	1.42	1.30	13.55	1.42	1.30	13.55	1.42	0.0%	0.0%	0.0%
1986 T	Pass	-	0		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	
	Fail	Pass	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	
	Fail	Unresolv.	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	
	Fail	Waiver	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	
Total	Fail%		0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	
1987 T	Pass	-	5		0.65	4.16	1.91	0.65	4.16	1.91	0.65	4.16	1.91	0.0%	0.0%	0.0%
	Fail	Pass	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	
	Fail	Unresolv.	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	
	Fail	Waiver	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	
Total	Fail%		5	0.0%	0.65	4.16	1.91	0.65	4.16	1.91	0.65	4.16	1.91	0.0%	0.0%	0.0%
1988 T	Pass	-	2		0.39	2.93	1.06	0.39	2.93	1.06	0.39	2.93	1.06	0.0%	0.0%	0.0%
	Fail	Pass	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	
	Fail	Unresolv.	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	
	Fail	Waiver	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	
Total	Fail%		2	0.0%	0.39	2.93	1.06	0.39	2.93	1.06	0.39	2.93	1.06	0.0%	0.0%	0.0%
1989 T	Pass	-	11		1.00	12.98	1.82	1.00	12.98	1.82	1.00	12.98	1.82	0.0%	0.0%	0.0%
	Fail	Pass	1	8.3%	0.94	7.42	2.22	1.08	11.43	1.49	-15.3%	-54.2%	32.8%			
	Fail	Unresolv.	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	
	Fail	Waiver	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	
Total	Fail%		12	8.3%	0.99	12.52	1.86	1.01	12.85	1.80	-1.2%	-2.7%	3.3%			
1990 T	Pass	-	4		1.11	10.57	3.50	1.11	10.57	3.50	1.11	10.57	3.50	0.0%	0.0%	0.0%
	Fail	Pass	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	
	Fail	Unresolv.	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	
	Fail	Waiver	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	
Total	Fail%		4	0.0%	1.11	10.57	3.50	1.11	10.57	3.50	1.11	10.57	3.50	0.0%	0.0%	0.0%
1991 T	Pass	-	39		0.90	9.43	1.91	0.90	9.43	1.91	0.90	9.43	1.91	0.0%	0.0%	0.0%
	Fail	Pass	2	4.9%	2.55	50.76	1.60	0.79	11.38	1.59	69.0%	77.6%	0.7%			
	Fail	Unresolv.	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	
	Fail	Waiver	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	
Total	Fail%		41	4.9%	0.98	11.44	1.89	0.89	9.52	1.89	8.7%	16.8%	0.0%			
1992 T	Pass	-	9		1.02	7.83	2.69	1.02	7.83	2.69	1.02	7.83	2.69	0.0%	0.0%	0.0%
	Fail	Pass	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	
	Fail	Unresolv.	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	
	Fail	Waiver	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	
Total	Fail%		9	0.0%	1.02	7.83	2.69	1.02	7.83	2.69	1.02	7.83	2.69	0.0%	0.0%	0.0%
1993 T	Pass	-	82		0.78	7.12	1.96	0.78	7.12	1.96	0.78	7.12	1.96	0.0%	0.0%	0.0%
	Fail	Pass	4	4.7%	4.28	24.63	1.90	1.31	10.84	1.46	69.3%	56.0%	23.2%			
	Fail	Unresolv.	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	
	Fail	Waiver	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	
Total	Fail%		86	4.7%	0.95	7.93	1.96	0.81	7.29	1.94	14.6%	8.1%	1.0%			

### Appendix B1 IM240 Test Emissions Reductions - RapidScreen Audit Vehicles

Unresolved fails remaining in area

Model Year/Type	First Result	Last Result	Vehicles	33%			HC	Initial CO	NOX	HC	Final CO	NOX	Reduction %		
													HC	CO	NOX
1994	Pass	-	22	8.3%	0.71	5.99	1.53	0.71	5.99	1.53	0.0%	0.0%	0.0%		
	T Fail	Pass	2		1.57	11.18	1.91	0.98	5.69	2.21	37.3%	49.1%	-15.7%		
	Fail	Unresolv.	0		0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%		
	Fail	Waiver	0		0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%		
Total	Fail%		24	8.3%	0.78	6.42	1.56	0.73	5.97	1.58	6.2%	7.1%	-1.6%		
1995	Pass	-	175	0.6%	0.62	6.52	1.76	0.62	6.52	1.76	0.0%	0.0%	0.0%		
	T Fail	Pass	1		11.95	35.57	3.08	1.03	4.67	2.96	91.4%	86.9%	3.8%		
	Fail	Unresolv.	0		0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%		
	Fail	Waiver	0		0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%		
Total	Fail%		176	0.6%	0.68	6.68	1.76	0.62	6.51	1.76	9.1%	2.6%	0.0%		
1996	Pass	-	28	0.0%	0.19	2.72	1.06	0.19	2.72	1.06	0.0%	0.0%	0.0%		
	T Fail	Pass	0		0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%		
	Fail	Unresolv.	0		0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%		
	Fail	Waiver	0		0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%		
Total	Fail%		28	0.0%	0.19	2.72	1.06	0.19	2.72	1.06	0.0%	0.0%	0.0%		
1997	Pass	-	282	1.4%	0.21	3.37	1.02	0.21	3.37	1.02	0.0%	0.0%	0.0%		
	T Fail	Pass	4		0.41	25.01	2.08	0.45	8.62	2.20	-7.7%	65.5%	-5.4%		
	Fail	Unresolv.	0		0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%		
	Fail	Waiver	0		0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%		
Total	Fail%		286	1.4%	0.21	3.67	1.03	0.21	3.44	1.04	-0.2%	6.2%	-0.2%		
1998	Pass	-	32	0.0%	0.13	2.08	0.77	0.13	2.08	0.77	0.0%	0.0%	0.0%		
	T Fail	Pass	0		0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%		
	Fail	Unresolv.	0		0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%		
	Fail	Waiver	0		0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%		
Total	Fail%		32	0.0%	0.13	2.08	0.77	0.13	2.08	0.77	0.0%	0.0%	0.0%		
1999	Pass	-	354	0.8%	0.11	1.34	0.62	0.11	1.34	0.62	0.0%	0.0%	0.0%		
	T Fail	Pass	3		0.24	2.40	0.97	0.19	2.98	1.25	21.7%	-24.2%	-28.6%		
	Fail	Unresolv.	0		0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%		
	Fail	Waiver	0		0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%		
Total	Fail%		357	0.8%	0.12	1.35	0.63	0.11	1.35	0.63	0.4%	-0.4%	-0.4%		
2000	Pass	-	6	0.0%	0.14	1.38	0.46	0.14	1.38	0.46	0.0%	0.0%	0.0%		
	T Fail	Pass	0		0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%		
	Fail	Unresolv.	0		0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%		
	Fail	Waiver	0		0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%		
Total	Fail%		6	0.0%	0.14	1.38	0.46	0.14	1.38	0.46	0.0%	0.0%	0.0%		
2001	Pass	-	0	-	-	-	-	-	-	-	-	-	-	-	-
	T Fail	Pass	0		-	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0		-	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0		-	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-	-	-
2002	Pass	-	0	-	-	-	-	-	-	-	-	-	-	-	-
	T Fail	Pass	0		-	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0		-	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0		-	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Trucks</b>															
All	Pass	-	1,055	1.6%	0.35	3.90	1.15	0.35	3.90	1.15	0.0%	0.0%	0.0%		
T	Fail	Pass	17		2.39	21.92	1.83	0.78	8.06	1.79	67.4%	63.2%	2.4%		
Fail	Unresolv.	0	0.0%												
Fail	Waiver	0	0.0%												
Total	Fail%		1,072	1.6%	0.38	4.19	1.16	0.35	3.97	1.16	6.7%	5.2%	0.1%		
<b>Fleet Total</b>															
All	Pass	-	3,077	1.8%	0.28	3.06	0.93	0.28	3.06	0.93	0.0%	0.0%	0.0%		
All	Fail	Pass	55		1.86	18.59	1.57	0.62	6.47	1.48	66.8%	65.2%	6.1%		
Fail	Unresolv.	2	0.1%	7.39	22.55	3.90	2.44	7.44	1.29	67.0%	67.0%	67.0%			
Fail	Waiver	8	0.3%	2.05	22.00	2.63	2.03	17.14	2.35	1.1%	22.1%	10.6%			
Total	Fail%		3,142	2.1%	0.31	3.39	0.95	0.29	3.16	0.95	8.0%	6.9%	0.4%		

## Appendix B2 Enhanced Idle Test Emissions Reductions

Unresolved fails remaining in area							33%			Reduction %			
Model Year/Type	First Result	Last Result	Vehicles	Fail%	Initial HC	Initial CO	Initial NOX	Final HC	Final CO	Final NOX	HC	CO	NOX
1981 P	Pass	-	6,249		220.87	1.54	-	220.87	1.54	-	-	-	-
	Fail	Pass	613	8.2%	1,154.83	4.52	-	288.53	2.12	-	75.0%	53.1%	-
	Fail	Unresolv.	305	4.1%	1,466.65	4.10	-	483.93	1.30	-	67.0%	68.2%	-
	Fail	Waiver	285	3.8%	1,573.99	4.22	-	1,559.35	4.15	-	0.9%	1.7%	-
Total	Fail%		7,452	16.1%	400.43	1.99	-	288.39	1.68	-	28.0%	15.8%	-
1982 P	Pass	-	35		87.46	0.19	-	87.46	0.19	-	-	-	-
	Fail	Pass	8	12.5%	584.88	0.49	-	130.13	0.24	-	77.8%	51.0%	-
	Fail	Unresolv.	14	21.9%	986.50	0.78	-	348.50	0.31	-	64.7%	61.0%	-
	Fail	Waiver	7	10.9%	510.14	0.57	-	653.43	1.89	-	-28.1%	-229.1%	-
Total	Fail%		64	45.3%	392.53	0.40	-	211.80	0.41	-	46.0%	-2.0%	-
1983 P	Pass	-	150		79.89	0.16	-	79.89	0.16	-	-	-	-
	Fail	Pass	17	7.5%	609.29	1.74	-	112.47	0.22	-	81.5%	87.6%	-
	Fail	Unresolv.	32	14.1%	1,021.13	2.62	-	283.61	0.95	-	72.2%	63.7%	-
	Fail	Waiver	28	12.3%	644.75	2.58	-	882.64	3.46	-	-36.9%	-33.9%	-
Total	Fail%		227	33.9%	321.90	0.93	-	210.07	0.68	-	34.7%	26.2%	-
1984 P	Pass	-	113		92.64	0.22	-	92.64	0.22	-	-	-	-
	Fail	Pass	21	11.4%	353.24	2.08	-	93.62	0.43	-	73.5%	79.1%	-
	Fail	Unresolv.	28	15.1%	762.32	2.63	-	249.42	0.87	-	67.3%	67.1%	-
	Fail	Waiver	23	12.4%	1,180.17	1.91	-	984.35	2.06	-	16.6%	-8.2%	-
Total	Fail%		185	38.9%	358.78	1.00	-	227.34	0.57	-	36.6%	43.2%	-
1985 P	Pass	-	339		81.32	0.19	-	81.32	0.19	-	-	-	-
	Fail	Pass	52	11.2%	395.25	1.94	-	106.37	0.21	-	73.1%	89.0%	-
	Fail	Unresolv.	38	8.2%	854.76	2.26	-	290.91	0.86	-	66.0%	61.9%	-
	Fail	Waiver	35	7.5%	784.11	2.98	-	754.46	3.20	-	3.8%	-7.5%	-
Total	Fail%		464	26.9%	232.85	0.77	-	152.06	0.48	-	34.7%	38.0%	-
1986 P	Pass	-	109		98.28	0.22	-	98.28	0.22	-	-	-	-
	Fail	Pass	13	7.9%	287.08	1.06	-	85.69	0.10	-	70.2%	90.2%	-
	Fail	Unresolv.	22	13.4%	783.73	2.27	-	221.36	0.75	-	71.8%	66.8%	-
	Fail	Waiver	20	12.2%	936.15	4.12	-	1,023.50	3.86	-	-9.3%	6.4%	-
Total	Fail%		164	33.5%	307.37	1.04	-	226.62	0.73	-	26.3%	30.0%	-
1987 P	Pass	-	302		93.03	0.19	-	93.03	0.19	-	-	-	-
	Fail	Pass	43	10.5%	483.91	1.97	-	135.02	0.34	-	72.1%	83.0%	-
	Fail	Unresolv.	40	9.8%	794.08	2.63	-	283.21	0.84	-	64.3%	68.1%	-
	Fail	Waiver	25	6.1%	713.68	2.07	-	692.20	2.86	-	3.0%	-38.0%	-
Total	Fail%		410	26.3%	240.26	0.73	-	152.52	0.43	-	36.5%	40.8%	-
1988 P	Pass	-	111		99.83	0.22	-	99.83	0.22	-	-	-	-
	Fail	Pass	10	7.0%	1,011.60	1.63	-	110.60	0.21	-	89.1%	87.2%	-
	Fail	Unresolv.	13	9.2%	751.31	3.36	-	248.54	1.12	-	66.9%	66.8%	-
	Fail	Waiver	8	5.6%	750.38	2.85	-	1,576.88	2.59	-	-110.1%	9.3%	-
Total	Fail%		142	21.8%	260.33	0.75	-	197.42	0.43	-	24.2%	42.5%	-
1989 P	Pass	-	310		86.22	0.18	-	86.22	0.18	-	-	-	-
	Fail	Pass	26	7.0%	348.77	0.95	-	118.88	0.22	-	65.9%	76.6%	-
	Fail	Unresolv.	23	6.2%	1,238.61	2.33	-	511.99	0.85	-	58.7%	63.6%	-
	Fail	Waiver	10	2.7%	1,223.00	3.40	-	845.30	2.18	-	30.9%	35.8%	-
Total	Fail%		369	16.0%	207.36	0.46	-	135.63	0.28	-	34.6%	38.5%	-
1990 P	Pass	-	101		92.73	0.20	-	92.73	0.20	-	-	-	-
	Fail	Pass	12	9.9%	483.42	1.29	-	75.33	0.12	-	84.4%	90.9%	-
	Fail	Unresolv.	5	4.1%	968.20	4.77	-	319.51	1.57	-	67.0%	67.0%	-
	Fail	Waiver	3	2.5%	176.33	2.38	-	234.67	3.58	-	-33.1%	-50.3%	-
Total	Fail%		121	16.5%	169.73	0.55	-	103.90	0.34	-	38.8%	39.4%	-
1991 P	Pass	-	739		79.01	0.18	-	79.01	0.18	-	-	-	-
	Fail	Pass	28	3.5%	454.57	1.97	-	103.46	0.24	-	77.2%	87.9%	-
	Fail	Unresolv.	17	2.1%	704.12	1.12	-	230.79	0.46	-	67.2%	58.6%	-
	Fail	Waiver	14	1.8%	465.79	1.84	-	633.00	0.95	-	-35.9%	48.4%	-
Total	Fail%		798	7.4%	112.29	0.29	-	92.82	0.20	-	17.3%	30.8%	-
1992 P	Pass	-	213		74.49	0.15	-	74.49	0.15	-	-	-	-
	Fail	Pass	12	5.2%	731.92	0.83	-	129.33	0.21	-	82.3%	74.1%	-
	Fail	Unresolv.	6	2.6%	627.33	2.09	-	269.50	0.70	-	57.0%	66.3%	-
	Fail	Waiver	2	0.9%	2,048.00	5.11	-	1,344.50	4.26	-	34.4%	16.8%	-
Total	Fail%		233	8.6%	139.52	0.28	-	93.24	0.20	-	33.2%	26.7%	-

## Appendix B2 Enhanced Idle Test Emissions Reductions

Unresolved fails remaining in area					33%			Final			Reduction %				
Model	First	Last	Vehicles	Fail%	Initial		HC	CO	NOX	HC	CO	NOX	HC	CO	NOX
Year/Type	Result	Result			HC					HC			HC	CO	NOX
1993 P	Pass	-	910		64.84	0.12	-	64.84	0.12	-	-	-	-	-	-
	Fail	Pass	31	3.2%	303.61	1.31	-	77.19	0.17	-	74.6%	87.0%	-	-	-
	Fail	Unresolv.	8	0.8%	898.50	4.13	-	331.73	1.37	-	63.1%	66.8%	-	-	-
	Fail	Waiver	8	0.8%	935.13	2.38	-	867.13	2.14	-	7.3%	10.2%	-	-	-
Total	Fail%		957	4.9%	86.82	0.21	-	74.18	0.15	-	14.6%	29.5%	-	-	-
1994 P	Pass	-	276		62.95	0.13	-	62.95	0.13	-	-	-	-	-	-
	Fail	Pass	4	1.4%	181.75	0.21	-	125.50	0.12	-	30.9%	40.5%	-	-	-
	Fail	Unresolv.	3	1.1%	619.33	2.00	-	204.38	0.66	-	67.0%	67.0%	-	-	-
	Fail	Waiver	1	0.4%	211.00	0.10	-	360.00	0.47	-	-70.6%	-370.0%	-	-	-
Total	Fail%		284	2.8%	71.02	0.15	-	66.37	0.14	-	6.5%	9.3%	-	-	-
1995 P	Pass	-	1,092		37.86	0.07	-	37.86	0.07	-	-	-	-	-	-
	Fail	Pass	15	1.3%	272.87	0.44	-	34.73	0.08	-	87.3%	82.6%	-	-	-
	Fail	Unresolv.	5	0.4%	384.80	0.55	-	126.98	0.18	-	67.0%	67.0%	-	-	-
	Fail	Waiver	1	0.1%	3,370.00	1.05	-	436.00	0.54	-	87.1%	48.6%	-	-	-
Total	Fail%		1,113	1.9%	45.58	0.08	-	38.57	0.07	-	15.4%	8.8%	-	-	-
1996 P	Pass	-	196		30.08	0.06	-	30.08	0.06	-	-	-	-	-	-
	Fail	Pass	2	1.0%	32.50	0.35	-	17.00	0.21	-	47.7%	40.8%	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-	-	-
Total	Fail%		198	1.0%	30.11	0.06	-	29.95	0.06	-	0.5%	2.3%	-	-	-
1997 P	Pass	-	920		26.50	0.03	-	26.50	0.03	-	-	-	-	-	-
	Fail	Pass	7	0.8%	723.14	1.97	-	62.71	0.15	-	91.3%	92.5%	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	1	0.1%	200.00	0.29	-	512.00	0.17	-	-156.0%	41.4%	-	-	-
Total	Fail%		928	0.9%	31.94	0.05	-	27.29	0.04	-	14.5%	27.9%	-	-	-
1998 P	Pass	-	229		31.51	0.04	-	31.51	0.04	-	-	-	-	-	-
	Fail	Pass	3	1.3%	25.00	0.06	-	28.00	0.07	-	-12.0%	-10.5%	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-	-	-
Total	Fail%		232	1.3%	31.43	0.04	-	31.47	0.04	-	-0.1%	-0.2%	-	-	-
1999 P	Pass	-	1,061		22.00	0.02	-	22.00	0.02	-	-	-	-	-	-
	Fail	Pass	4	0.4%	26.75	0.06	-	44.50	0.08	-	-66.4%	-23.1%	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	1	0.1%	296.00	1.26	-	296.00	1.26	-	-	-	-	-	-
Total	Fail%		1,066	0.5%	22.28	0.03	-	22.35	0.03	-	-0.3%	-0.2%	-	-	-
2000 P	Pass	-	202		15.50	0.02	-	15.50	0.02	-	-	-	-	-	-
	Fail	Pass	1	0.5%	527.00	0.32	-	70.00	0.70	-	86.7%	-118.8%	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-	-	-
Total	Fail%		203	0.5%	18.01	0.02	-	15.76	0.02	-	12.5%	-9.4%	-	-	-
2001 P	Pass	-	169		8.89	0.01	-	8.89	0.01	-	-	-	-	-	-
	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-	-	-
Total	Fail%		169	-	8.89	0.01	-	8.89	0.01	-	-	-	-	-	-
2002 P	Pass	-	3		19.67	-	-	19.67	-	-	-	-	-	-	-
	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-	-	-
Total	Fail%		3	-	19.67	-	-	19.67	-	-	-	-	-	-	-
<b>Total Passenger Vehicles</b>															
All	Pass	-	13,829		128.48	0.75	0.00	128.48	0.75	0.00	0.0%	0.0%	-	-	-
P	Fail	Pass	922	5.8%	913.26	3.50	0.00	225.61	1.48	0.00	75.3%	57.7%	-	-	-
	Fail	Unresolv.	559	3.5%	1192.21	3.32	0.00	396.84	1.09	0.00	66.7%	67.3%	-	-	-
	Fail	Waiver	472	3.0%	1276.06	3.56	0.00	1276.24	3.59	0.00	0.0%	-0.7%	-	-	-
Total	Fail%		15,782	12.4%	246.33	1.09	0.00	177.99	0.89	0.00	27.7%	18.0%	-	-	-
1981 T	Pass	-	2,955		236.34	1.90	-	236.34	1.90	-	-	-	-	-	-
	Fail	Pass	514	13.2%	1,143.41	3.99	-	261.59	1.97	-	77.1%	50.6%	-	-	-
	Fail	Unresolv.	241	6.2%	1,340.79	3.94	-	448.53	1.28	-	66.5%	67.4%	-	-	-
	Fail	Waiver	197	5.0%	1,445.60	4.02	-	1,365.55	4.16	-	5.5%	-3.5%	-	-	-
Total	Fail%		3,907	24.4%	484.78	2.41	-	309.69	1.98	-	36.1%	17.6%	-	-	-

## Appendix B2 Enhanced Idle Test Emissions Reductions

Unresolved fails remaining in area						33%			Reduction %					
Model Year/Type	First Result	Last Result	Vehicles	Fail%		Initial HC	CO	NOX	Final HC	CO	NOX	HC	CO	NOX
1982 T	Pass	-	22		91.95	0.20	-	91.95	0.20	-	-	-	-	-
	Fail	Pass	8	18.2%	425.25	1.00	-	84.75	0.29	-	80.1%	71.0%	-	-
	Fail	Unresolv.	9	20.5%	604.56	4.59	-	249.77	1.41	-	58.7%	69.4%	-	-
	Fail	Waiver	5	11.4%	773.40	2.48	-	555.80	1.11	-	28.1%	55.1%	-	-
Total	Fail%		44	50.0%	334.84	1.50	-	175.64	0.57	-	47.5%	62.2%	-	-
1983 T	Pass	-	118		102.85	0.29	-	102.85	0.29	-	-	-	-	-
	Fail	Pass	32	14.1%	437.38	2.60	-	91.50	0.25	-	79.1%	90.3%	-	-
	Fail	Unresolv.	53	23.3%	802.89	2.70	-	241.66	0.94	-	69.9%	65.1%	-	-
	Fail	Waiver	24	10.6%	903.29	2.30	-	931.75	1.75	-	-3.2%	23.8%	-	-
Total	Fail%		227	48.0%	398.08	1.39	-	221.29	0.59	-	44.4%	57.4%	-	-
1984 T	Pass	-	56		89.80	0.27	-	89.80	0.27	-	-	-	-	-
	Fail	Pass	21	15.6%	298.90	2.11	-	95.95	0.26	-	67.9%	87.5%	-	-
	Fail	Unresolv.	40	29.6%	649.43	4.20	-	219.30	1.26	-	66.2%	69.9%	-	-
	Fail	Waiver	18	13.3%	812.11	2.88	-	776.44	2.78	-	4.4%	3.6%	-	-
Total	Fail%		135	58.5%	384.45	2.07	-	220.68	0.90	-	42.6%	56.6%	-	-
1985 T	Pass	-	293		95.13	0.26	-	95.13	0.26	-	-	-	-	-
	Fail	Pass	85	16.3%	354.52	1.19	-	90.91	0.22	-	74.4%	81.1%	-	-
	Fail	Unresolv.	78	15.0%	628.45	2.39	-	201.58	0.83	-	67.9%	65.1%	-	-
	Fail	Waiver	65	12.5%	739.74	2.11	-	579.78	2.17	-	21.6%	-3.0%	-	-
Total	Fail%		521	43.8%	297.72	0.96	-	170.84	0.58	-	42.6%	39.8%	-	-
1986 T	Pass	-	106		102.75	0.23	-	102.75	0.23	-	-	-	-	-
	Fail	Pass	24	12.5%	340.08	1.30	-	115.88	0.30	-	65.9%	76.9%	-	-
	Fail	Unresolv.	38	19.8%	920.24	2.90	-	301.10	0.82	-	67.3%	71.8%	-	-
	Fail	Waiver	24	12.5%	864.21	2.79	-	685.54	2.70	-	20.7%	3.3%	-	-
Total	Fail%		192	44.8%	389.40	1.21	-	216.50	0.66	-	44.4%	45.2%	-	-
1987 T	Pass	-	481		102.21	0.24	-	102.21	0.24	-	-	-	-	-
	Fail	Pass	77	12.2%	471.88	1.48	-	133.71	0.28	-	71.7%	81.1%	-	-
	Fail	Unresolv.	42	6.6%	725.26	2.82	-	259.41	0.91	-	64.2%	67.8%	-	-
	Fail	Waiver	33	5.2%	615.03	1.73	-	663.33	1.73	-	-7.9%	0.2%	-	-
Total	Fail%		633	24.0%	215.25	0.64	-	145.72	0.37	-	32.3%	42.7%	-	-
1988 T	Pass	-	159		108.88	0.24	-	108.88	0.24	-	-	-	-	-
	Fail	Pass	19	9.1%	340.63	1.84	-	129.68	0.35	-	61.9%	81.1%	-	-
	Fail	Unresolv.	20	9.6%	667.20	1.55	-	186.20	0.50	-	72.1%	68.0%	-	-
	Fail	Waiver	10	4.8%	666.30	3.08	-	1,027.50	2.55	-	-54.2%	17.0%	-	-
Total	Fail%		208	23.6%	210.53	0.64	-	162.38	0.38	-	22.9%	40.8%	-	-
1989 T	Pass	-	445		98.33	0.24	-	98.33	0.24	-	-	-	-	-
	Fail	Pass	68	11.8%	461.87	1.90	-	115.69	0.28	-	75.0%	85.5%	-	-
	Fail	Unresolv.	28	4.9%	535.25	2.46	-	179.76	0.73	-	66.4%	70.3%	-	-
	Fail	Waiver	35	6.1%	661.14	3.02	-	543.17	1.94	-	17.8%	35.8%	-	-
Total	Fail%		576	22.7%	196.69	0.71	-	131.37	0.37	-	33.2%	48.0%	-	-
1990 T	Pass	-	89		91.13	0.18	-	91.13	0.18	-	-	-	-	-
	Fail	Pass	10	9.3%	188.30	1.92	-	107.70	0.27	-	42.8%	85.8%	-	-
	Fail	Unresolv.	3	2.8%	410.67	1.82	-	143.77	0.60	-	65.0%	67.0%	-	-
	Fail	Waiver	5	4.7%	798.20	5.59	-	473.60	5.78	-	40.7%	-3.4%	-	-
Total	Fail%		107	16.8%	142.21	0.64	-	112.03	0.46	-	21.2%	28.1%	-	-
1991 T	Pass	-	409		77.33	0.18	-	77.33	0.18	-	-	-	-	-
	Fail	Pass	33	7.1%	306.30	1.34	-	126.52	0.25	-	58.7%	81.3%	-	-
	Fail	Unresolv.	17	3.6%	788.24	2.15	-	246.94	0.67	-	68.7%	69.0%	-	-
	Fail	Waiver	9	1.9%	812.89	1.80	-	540.44	1.67	-	33.5%	7.0%	-	-
Total	Fail%		468	12.6%	133.45	0.37	-	95.87	0.23	-	28.2%	36.3%	-	-
1992 T	Pass	-	98		98.53	0.25	-	98.53	0.25	-	-	-	-	-
	Fail	Pass	6	5.4%	522.50	3.19	-	61.17	0.05	-	88.3%	98.5%	-	-
	Fail	Unresolv.	7	6.3%	820.71	3.20	-	250.94	1.06	-	69.4%	67.0%	-	-
	Fail	Waiver	1	0.9%	370.00	0.20	-	359.00	0.20	-	3.0%	-	-	-
Total	Fail%		112	12.5%	168.80	0.59	-	108.38	0.29	-	35.8%	50.9%	-	-
1993 T	Pass	-	416		90.02	0.24	-	90.02	0.24	-	-	-	-	-
	Fail	Pass	13	2.9%	272.38	0.91	-	112.15	0.22	-	58.8%	75.2%	-	-
	Fail	Unresolv.	7	1.6%	1,043.43	3.54	-	362.62	1.23	-	65.2%	65.4%	-	-
	Fail	Waiver	5	1.1%	586.20	0.98	-	544.80	1.10	-	7.1%	-12.2%	-	-
Total	Fail%		441	5.7%	116.16	0.32	-	100.16	0.27	-	13.8%	17.1%	-	-

## Appendix B2 Enhanced Idle Test Emissions Reductions

Unresolved fails remaining in area					33%			Reduction %					
Model Year/Type	First Result	Last Result	Vehicles	Fail%	Initial HC	Initial CO	Initial NOX	Final HC	Final CO	Final NOX	HC	CO	NOX
1994 T	Pass	-	127		72.80	0.27	-	72.80	0.27	-	-	-	-
	Fail	Pass	5	3.7%	213.80	1.00	-	109.00	0.47	-	49.0%	53.0%	-
	Fail	Unresolv.	3	2.2%	2,380.67	2.49	-	785.62	0.82	-	67.0%	67.0%	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		135	5.9%	129.31	0.35	-	89.98	0.29	-	30.4%	16.2%	-
1995 T	Pass	-	364		67.13	0.21	-	67.13	0.21	-	-	-	-
	Fail	Pass	9	2.4%	289.44	0.81	-	95.00	0.30	-	67.2%	63.6%	-
	Fail	Unresolv.	6	1.6%	593.33	2.69	-	192.89	0.88	-	67.5%	67.1%	-
	Fail	Waiver	3	0.8%	648.00	1.31	-	445.00	1.19	-	31.3%	9.1%	-
Total	Fail%		382	4.7%	85.19	0.27	-	72.73	0.23	-	14.6%	15.4%	-
1996 T	Pass	-	99		44.53	0.13	-	44.53	0.13	-	-	-	-
	Fail	Pass	1	1.0%	14.00	-	-	67.00	0.15	-	-378.6%	-	-
	Fail	Unresolv.	1	1.0%	1,237.00	10.74	-	408.21	3.54	-	67.0%	67.0%	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		101	2.0%	56.03	0.23	-	48.35	0.16	-	13.7%	29.9%	-
1997 T	Pass	-	872		23.63	0.05	-	23.63	0.05	-	-	-	-
	Fail	Pass	9	1.0%	11.22	0.00	-	13.78	0.01	-	-22.8%	-300.0%	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		881	1.0%	23.50	0.05	-	23.53	0.05	-	-0.1%	-0.2%	-
1998 T	Pass	-	354		31.00	0.08	-	31.00	0.08	-	-	-	-
	Fail	Pass	1	0.3%	8.00	-	-	13.00	-	-	-62.5%	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		355	0.3%	30.94	0.08	-	30.95	0.08	-	-0.0%	-	-
1999 T	Pass	-	1,294		19.69	0.03	-	19.69	0.03	-	-	-	-
	Fail	Pass	2	0.2%	11.50	0.00	-	8.50	-	-	26.1%	100.0%	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		1,296	0.2%	19.68	0.03	-	19.68	0.03	-	0.0%	0.0%	-
2000 T	Pass	-	305		14.46	0.03	-	14.46	0.03	-	-	-	-
	Fail	Pass	1	0.3%	6.00	-	-	3.00	-	-	50.0%	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		306	0.3%	14.43	0.03	-	14.42	0.03	-	0.1%	-	-
2001 T	Pass	-	140		11.32	0.01	-	11.32	0.01	-	-	-	-
	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		140	-	11.32	0.01	-	11.32	0.01	-	-	-	-
2002 T	Pass	-	1		7.00	-	-	7.00	-	-	-	-	-
	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		1	-	7.00	-	-	7.00	-	-	-	-	-
<b>Total Trucks</b>													
All	Pass	-	9,203		114.59	0.70	0.00	114.59	0.70	0.00	0.0%	0.0%	-
T	Fail	Pass	938	8.4%	795.73	2.88	0.00	191.80	1.20	0.00	75.9%	58.5%	-
	Fail	Unresolv.	593	5.3%	977.24	3.27	0.00	323.08	1.06	0.00	66.9%	67.7%	-
	Fail	Waiver	434	3.9%	1060.88	3.14	0.00	979.48	3.06	0.00	7.7%	2.6%	-
Total	Fail%		11,168	17.6%	254.38	1.12	0.00	165.76	0.86	0.00	34.8%	23.5%	-
<b>Fleet Total</b>													
All	Pass	-	23,032		122.93	0.73	-	122.93	0.73	-	-	-	-
All	Fail	Pass	1,860	6.9%	853.99	3.19	-	208.56	1.34	-	75.6%	58.1%	-
	Fail	Unresolv.	1,152	4.3%	1,081.55	3.29	-	358.87	1.07	-	66.8%	67.5%	-
	Fail	Waiver	906	3.4%	1,172.98	3.36	-	1,134.09	3.33	-	3.3%	0.8%	-
Total	Fail%		26,950	14.5%	249.66	1.10	-	172.92	0.88	-	30.7%	20.3%	-

## Appendix B2 Enhanced Idle Test Emissions Reductions - RapidScreen Audit Vehicles

Unresolved fails remaining in area					33%			Final			Reduction %		
Model	First Result	Last Result	Vehicles	Fail%	Initial HC	Initial CO	Initial NOX	Final HC	Final CO	Final NOX	HC Reduction %	CO Reduction %	NOX Reduction %
1981	Pass	-	0	-	-	-	-	-	-	-	-	-	-
	P	Fail	Pass	0	-	-	-	-	-	-	-	-	-
		Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-
		Fail	Waiver	0	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
1982	Pass	-	0	-	-	-	-	-	-	-	-	-	-
	P	Fail	Pass	0	-	-	-	-	-	-	-	-	-
		Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-
		Fail	Waiver	0	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
1983	Pass	-	0	-	-	-	-	-	-	-	-	-	-
	P	Fail	Pass	0	-	-	-	-	-	-	-	-	-
		Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-
		Fail	Waiver	0	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
1984	Pass	-	0	-	-	-	-	-	-	-	-	-	-
	P	Fail	Pass	0	-	-	-	-	-	-	-	-	-
		Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-
		Fail	Waiver	0	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
1985	Pass	-	0	-	-	-	-	-	-	-	-	-	-
	P	Fail	Pass	0	-	-	-	-	-	-	-	-	-
		Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-
		Fail	Waiver	0	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
1986	Pass	-	0	-	-	-	-	-	-	-	-	-	-
	P	Fail	Pass	0	-	-	-	-	-	-	-	-	-
		Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-
		Fail	Waiver	0	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
1987	Pass	-	0	-	-	-	-	-	-	-	-	-	-
	P	Fail	Pass	0	-	-	-	-	-	-	-	-	-
		Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-
		Fail	Waiver	0	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
1988	Pass	-	0	-	-	-	-	-	-	-	-	-	-
	P	Fail	Pass	0	-	-	-	-	-	-	-	-	-
		Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-
		Fail	Waiver	0	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
1989	Pass	-	0	-	-	-	-	-	-	-	-	-	-
	P	Fail	Pass	0	-	-	-	-	-	-	-	-	-
		Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-
		Fail	Waiver	0	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
1990	Pass	-	0	-	-	-	-	-	-	-	-	-	-
	P	Fail	Pass	0	-	-	-	-	-	-	-	-	-
		Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-
		Fail	Waiver	0	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
1991	Pass	-	2	83.50	0.17	-	83.50	0.17	-	-	-	-	-
	P	Fail	Pass	0	-	-	-	-	-	-	-	-	-
		Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-
		Fail	Waiver	0	-	-	-	-	-	-	-	-	-
Total	Fail%		2	83.50	0.17	-	83.50	0.17	-	-	-	-	-
1992	Pass	-	0	-	-	-	-	-	-	-	-	-	-
	P	Fail	Pass	0	-	-	-	-	-	-	-	-	-
		Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-
		Fail	Waiver	0	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-

### Appendix B2 Enhanced Idle Test Emissions Reductions - RapidScreen Audit Vehicles

Unresolved fails remaining in area					33%								
Model Year/Type	First Result	Last Result	Vehicles	Fail%	Initial			Final			Reduction %		
					HC	CO	NOX	HC	CO	NOX	HC	CO	NOX
1993 P	Pass	-	5	-	76.80	0.08	-	76.80	0.08	-	-	-	-
	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		5	-	76.80	0.08	-	76.80	0.08	-	-	-	-
1994 P	Pass	-	1	-	100.00	0.07	-	100.00	0.07	-	-	-	-
	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		1	-	100.00	0.07	-	100.00	0.07	-	-	-	-
1995 P	Pass	-	9	-	23.00	0.04	-	23.00	0.04	-	-	-	-
	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		9	-	23.00	0.04	-	23.00	0.04	-	-	-	-
1996 P	Pass	-	0	-	-	-	-	-	-	-	-	-	-
	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
1997 P	Pass	-	15	-	17.40	0.01	-	17.40	0.01	-	-	-	-
	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		15	-	17.40	0.01	-	17.40	0.01	-	-	-	-
1998 P	Pass	-	0	-	-	-	-	-	-	-	-	-	-
	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
1999 P	Pass	-	7	-	60.14	0.03	-	60.14	0.03	-	-	-	-
	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		7	-	60.14	0.03	-	60.14	0.03	-	-	-	-
2000 P	Pass	-	0	-	-	-	-	-	-	-	-	-	-
	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
2001 P	Pass	-	0	-	-	-	-	-	-	-	-	-	-
	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
2002 P	Pass	-	0	-	-	-	-	-	-	-	-	-	-
	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
<b>Total Passenger Vehicles</b>													
All	Pass	-	39	-	39.49	0.04	0.00	39.49	0.04	0.00	0.0%	0.0%	-
P	Fail	Pass	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	-	-	-
	Fail	Unresolv.	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	-	-	-
	Fail	Waiver	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	-	-	-
Total	Fail%		39	0.0%	39.49	0.04	0.00	39.49	0.04	0.00	0.0%	0.0%	-
1981 T	Pass	-	0	-	-	-	-	-	-	-	-	-	-
	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-

## Appendix B2 Enhanced Idle Test Emissions Reductions - RapidScreen Audit Vehicles

Unresolved fails remaining in area					33%			Final			Reduction %		
Model Year/Type	First Result	Last Result	Vehicles	Fail%	Initial HC	Initial CO	Initial NOX	Final HC	Final CO	Final NOX	HC Reduction %	CO Reduction %	NOX Reduction %
1982	Pass	-	0	-	-	-	-	-	-	-	-	-	-
	T Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	T Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	T Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
1983	Pass	-	0	-	-	-	-	-	-	-	-	-	-
	T Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	T Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	T Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
1984	Pass	-	0	-	-	-	-	-	-	-	-	-	-
	T Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	T Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	T Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
1985	Pass	-	0	-	-	-	-	-	-	-	-	-	-
	T Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	T Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	T Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
1986	Pass	-	0	-	-	-	-	-	-	-	-	-	-
	T Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	T Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	T Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
1987	Pass	-	0	-	-	-	-	-	-	-	-	-	-
	T Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	T Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	T Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
1988	Pass	-	0	-	-	-	-	-	-	-	-	-	-
	T Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	T Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	T Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
1989	Pass	-	2	132.00	0.43	-	132.00	0.43	-	-	-	-	-
	T Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	T Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	T Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		2	-	132.00	0.43	-	132.00	0.43	-	-	-	-
1990	Pass	-	0	-	-	-	-	-	-	-	-	-	-
	T Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	T Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	T Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
1991	Pass	-	2	161.50	0.58	-	161.50	0.58	-	-	-	-	-
	T Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	T Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	T Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		2	-	161.50	0.58	-	161.50	0.58	-	-	-	-
1992	Pass	-	1	156.00	0.50	-	156.00	0.50	-	-	-	-	-
	T Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	T Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	T Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		1	-	156.00	0.50	-	156.00	0.50	-	-	-	-
1993	Pass	-	3	101.33	0.40	-	101.33	0.40	-	-	-	-	-
	T Fail	Pass	1	25.0%	69.00	0.18	-	159.00	0.53	-	-130.4%	-194.4%	-
	T Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	T Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		4	25.0%	93.25	0.35	-	115.75	0.43	-	-24.1%	-25.4%	-

### Appendix B2 Enhanced Idle Test Emissions Reductions - RapidScreen Audit Vehicles

Unresolved fails remaining in area

Model Year/Type	First Result	Last Result	Vehicles	Fail%	33%			Final			Reduction %		
					HC	Initial CO	NOX	HC	CO	NOX	HC	CO	NOX
1994 T	Pass	-	0		-	-	-	-	-	-	-	-	-
	Fail	Pass	0		-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0		-	-	-	-	-	-	-	-	-
	Fail	Waiver	0		-	-	-	-	-	-	-	-	-
Total	Fail%		0		-	-	-	-	-	-	-	-	-
1995 T	Pass	-	4		67.25	0.11	-	67.25	0.11	-	-	-	-
	Fail	Pass	0		-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0		-	-	-	-	-	-	-	-	-
	Fail	Waiver	0		-	-	-	-	-	-	-	-	-
Total	Fail%		4		67.25	0.11	-	67.25	0.11	-	-	-	-
1996 T	Pass	-	1		8.00	-	-	8.00	-	-	-	-	-
	Fail	Pass	1	50.0%	14.00	-	-	67.00	0.15	-	-378.6%	-	-
	Fail	Unresolv.	0		-	-	-	-	-	-	-	-	-
	Fail	Waiver	0		-	-	-	-	-	-	-	-	-
Total	Fail%		2	50.0%	11.00	-	-	37.50	0.08	-	-240.9%	-	-
1997 T	Pass	-	15		34.07	0.08	-	34.07	0.08	-	-	-	-
	Fail	Pass	2	11.8%	16.00	-	-	10.50	-	-	34.4%	-	-
	Fail	Unresolv.	0		-	-	-	-	-	-	-	-	-
	Fail	Waiver	0		-	-	-	-	-	-	-	-	-
Total	Fail%		17	11.8%	31.94	0.07	-	31.29	0.07	-	2.0%	-	-
1998 T	Pass	-	1		99.00	0.05	-	99.00	0.05	-	-	-	-
	Fail	Pass	0		-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0		-	-	-	-	-	-	-	-	-
	Fail	Waiver	0		-	-	-	-	-	-	-	-	-
Total	Fail%		1		99.00	0.05	-	99.00	0.05	-	-	-	-
1999 T	Pass	-	22		25.32	0.03	-	25.32	0.03	-	-	-	-
	Fail	Pass	0		-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0		-	-	-	-	-	-	-	-	-
	Fail	Waiver	0		-	-	-	-	-	-	-	-	-
Total	Fail%		22		25.32	0.03	-	25.32	0.03	-	-	-	-
2000 T	Pass	-	0		-	-	-	-	-	-	-	-	-
	Fail	Pass	0		-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0		-	-	-	-	-	-	-	-	-
	Fail	Waiver	0		-	-	-	-	-	-	-	-	-
Total	Fail%		0		-	-	-	-	-	-	-	-	-
2001 T	Pass	-	0		-	-	-	-	-	-	-	-	-
	Fail	Pass	0		-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0		-	-	-	-	-	-	-	-	-
	Fail	Waiver	0		-	-	-	-	-	-	-	-	-
Total	Fail%		0		-	-	-	-	-	-	-	-	-
2002 T	Pass	-	0		-	-	-	-	-	-	-	-	-
	Fail	Pass	0		-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0		-	-	-	-	-	-	-	-	-
	Fail	Waiver	0		-	-	-	-	-	-	-	-	-
Total	Fail%		0		-	-	-	-	-	-	-	-	-
<b>Total Trucks</b>													
All	Pass	-	51		48.84	0.12	0.00	48.84	0.12	0.00	-	-	-
T	Fail	Pass	4	7.3%	28.75	0.05	0.00	61.75	0.17	0.00	-114.8%	-277.8%	-
	Fail	Unresolv.	0	0.0%	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	0.0%	-	-	-	-	-	-	-	-	-
Total	Fail%		55	7.3%	47.38	0.11	0.00	49.78	0.12	0.00	-5.1%	-8.2%	-
<b>Fleet Total</b>													
All	Pass	-	90		44.79	0.08	-	44.79	0.08	-	-	-	-
All	Fail	Pass	4	4.3%	28.75	0.05	-	61.75	0.17	-	-114.8%	-277.8%	-
	Fail	Unresolv.	0		-	-	-	-	-	-	-	-	-
	Fail	Waiver	0		-	-	-	-	-	-	-	-	-
Total	Fail%		94	4.3%	44.11	0.08	-	45.51	0.09	-	-3.2%	-6.5%	-

## Appendix B3 Basic Idle Test Emissions Reductions

Unresolved fails remaining in area:

Model Year/Type	First Result	Last Result	Vehicles	Fail%	33%			Final			Reduction %		
					Initial HC	CO	NOX	HC	CO	NOX	HC	CO	NOX
1981 P	Pass	-	715		203.21	1.56	-	203.21	1.56	-	-	-	-
	Fail	Pass	85	9.7%	961.64	4.13	-	246.40	1.84	-	74.4%	55.5%	-
	Fail	Unresolv.	54	6.2%	978.70	4.49	-	336.20	1.49	-	65.6%	66.8%	-
	Fail	Waiver	23	2.6%	1,338.87	4.44	-	1,300.09	4.59	-	2.9%	-3.5%	-
Total	Fail%		877	18.5%	354.25	2.06	-	244.35	1.66	-	31.0%	19.5%	-
1982 P	Pass	-	80		79.75	0.23	-	79.75	0.23	-	-	-	-
	Fail	Pass	21	17.9%	295.48	1.75	-	49.76	0.13	-	83.2%	92.7%	-
	Fail	Unresolv.	8	6.8%	521.63	3.72	-	223.37	1.18	-	57.2%	68.2%	-
	Fail	Waiver	8	6.8%	1,054.63	4.20	-	744.88	5.29	-	29.4%	-25.9%	-
Total	Fail%		117	31.6%	215.34	1.01	-	129.67	0.62	-	39.8%	38.6%	-
1983 P	Pass	-	183		66.17	0.16	-	66.17	0.16	-	-	-	-
	Fail	Pass	24	10.9%	241.88	2.80	-	95.58	0.22	-	60.5%	92.2%	-
	Fail	Unresolv.	11	5.0%	474.55	2.30	-	140.88	0.98	-	70.3%	57.2%	-
	Fail	Waiver	2	0.9%	671.50	1.16	-	752.50	3.93	-	-12.1%	-238.8%	-
Total	Fail%		220	16.8%	111.26	0.56	-	79.36	0.24	-	28.7%	57.1%	-
1984 P	Pass	-	359		79.55	0.18	-	79.55	0.18	-	-	-	-
	Fail	Pass	57	13.0%	419.74	2.75	-	93.63	0.26	-	77.7%	90.4%	-
	Fail	Unresolv.	17	3.9%	556.88	2.91	-	202.83	0.91	-	63.6%	68.8%	-
	Fail	Waiver	7	1.6%	660.43	2.25	-	446.14	2.55	-	32.4%	-13.2%	-
Total	Fail%		440	18.4%	151.30	0.65	-	91.97	0.25	-	39.2%	60.8%	-
1985 P	Pass	-	532		76.34	0.17	-	76.34	0.17	-	-	-	-
	Fail	Pass	57	9.1%	346.70	2.04	-	108.86	0.32	-	68.6%	84.4%	-
	Fail	Unresolv.	26	4.1%	718.27	2.19	-	270.11	0.97	-	62.4%	55.8%	-
	Fail	Waiver	12	1.9%	630.83	3.98	-	753.08	4.29	-	-19.4%	-7.9%	-
Total	Fail%		627	15.2%	138.15	0.50	-	100.28	0.29	-	27.4%	40.6%	-
1986 P	Pass	-	688		83.36	0.19	-	83.36	0.19	-	-	-	-
	Fail	Pass	63	7.9%	416.81	2.45	-	106.25	0.23	-	74.5%	90.8%	-
	Fail	Unresolv.	26	3.3%	644.19	3.82	-	234.91	1.28	-	63.5%	66.4%	-
	Fail	Waiver	16	2.0%	925.81	5.14	-	730.19	3.96	-	21.1%	22.9%	-
Total	Fail%		793	13.2%	145.23	0.59	-	103.20	0.31	-	28.9%	48.0%	-
1987 P	Pass	-	807		78.65	0.17	-	78.65	0.17	-	-	-	-
	Fail	Pass	73	7.9%	324.47	1.68	-	114.79	0.25	-	64.6%	84.9%	-
	Fail	Unresolv.	26	2.8%	886.54	3.32	-	185.03	0.95	-	79.1%	71.4%	-
	Fail	Waiver	16	1.7%	633.13	3.06	-	690.13	4.66	-	-9.0%	-52.3%	-
Total	Fail%		922	12.5%	130.52	0.43	-	95.13	0.28	-	27.1%	35.3%	-
1988 P	Pass	-	1,189		78.57	0.19	-	78.57	0.19	-	-	-	-
	Fail	Pass	83	6.3%	379.51	1.98	-	101.63	0.27	-	73.2%	86.3%	-
	Fail	Unresolv.	33	2.5%	742.42	2.90	-	224.62	0.94	-	69.7%	67.5%	-
	Fail	Waiver	13	1.0%	871.23	4.40	-	963.54	4.10	-	-10.6%	6.9%	-
Total	Fail%		1,318	9.8%	121.96	0.41	-	92.41	0.25	-	24.2%	38.8%	-
1989 P	Pass	-	1,480		72.04	0.17	-	72.04	0.17	-	-	-	-
	Fail	Pass	84	5.2%	345.40	2.24	-	97.99	0.22	-	71.6%	90.0%	-
	Fail	Unresolv.	32	2.0%	879.28	3.35	-	296.27	1.01	-	66.3%	69.9%	-
	Fail	Waiver	17	1.1%	1,085.12	3.34	-	674.29	2.88	-	37.9%	13.8%	-
Total	Fail%		1,613	8.2%	112.96	0.38	-	84.18	0.22	-	25.5%	41.4%	-
1990 P	Pass	-	1,472		72.43	0.17	-	72.43	0.17	-	-	-	-
	Fail	Pass	89	5.6%	461.48	2.72	-	81.74	0.18	-	82.3%	93.4%	-
	Fail	Unresolv.	11	0.7%	552.09	2.22	-	179.31	0.75	-	67.5%	66.4%	-
	Fail	Waiver	11	0.7%	612.82	2.26	-	776.27	2.48	-	-26.7%	-9.9%	-
Total	Fail%		1,583	7.0%	101.39	0.34	-	78.58	0.19	-	22.5%	44.1%	-
1991 P	Pass	-	1,728		75.16	0.18	-	75.16	0.18	-	-	-	-
	Fail	Pass	67	3.7%	401.49	2.17	-	103.31	0.23	-	74.3%	89.4%	-
	Fail	Unresolv.	19	1.0%	940.00	2.84	-	311.02	0.97	-	66.9%	66.0%	-
	Fail	Waiver	12	0.7%	756.08	3.13	-	706.50	2.48	-	6.6%	20.9%	-
Total	Fail%		1,826	5.4%	100.61	0.30	-	82.80	0.20	-	17.7%	32.0%	-
1992 P	Pass	-	1,757		63.19	0.15	-	63.19	0.15	-	-	-	-
	Fail	Pass	71	3.8%	425.25	2.31	-	76.38	0.15	-	82.0%	93.4%	-
	Fail	Unresolv.	10	0.5%	757.80	4.20	-	241.76	1.13	-	68.1%	73.2%	-
	Fail	Waiver	7	0.4%	1,059.00	3.75	-	876.57	4.39	-	17.2%	-17.1%	-
Total	Fail%		1,845	4.8%	84.66	0.27	-	67.75	0.17	-	20.0%	36.4%	-

## Appendix B3 Basic Idle Test Emissions Reductions

Unresolved fails remaining in area:

Model Year/Type	First Result	Last Result	Vehicles	Fail%	Initial			Final			Reduction %		
					HC	CO	NOX	HC	CO	NOX	HC	CO	NOX
1993 P	Pass	-	2,039		57.28	0.12	-	57.28	0.12	-	-	-	-
	Fail	Pass	59	2.8%	315.66	2.22	-	69.17	0.17	-	78.1%	92.5%	-
	Fail	Unresolv.	6	0.3%	638.17	6.28	-	210.38	2.06	-	67.0%	67.2%	-
	Fail	Waiver	2	0.1%	766.50	9.55	-	847.50	9.37	-	-10.6%	1.9%	-
Total	Fail%		2,106	3.2%	66.85	0.20	-	58.80	0.13	-	12.0%	34.2%	-
1994 P	Pass	-	1,919		45.24	0.09	-	45.24	0.09	-	-	-	-
	Fail	Pass	55	2.8%	195.76	1.33	-	50.91	0.11	-	74.0%	91.6%	-
	Fail	Unresolv.	3	0.2%	615.67	5.70	-	189.53	1.86	-	69.2%	67.3%	-
	Fail	Waiver	4	0.2%	631.25	2.52	-	772.50	3.40	-	-22.4%	-35.0%	-
Total	Fail%		1,981	3.1%	51.47	0.14	-	47.09	0.10	-	8.5%	27.5%	-
1995 P	Pass	-	2,358		37.38	0.06	-	37.38	0.06	-	-	-	-
	Fail	Pass	40	1.7%	194.95	1.32	-	69.30	0.16	-	64.5%	87.8%	-
	Fail	Unresolv.	4	0.2%	353.50	3.02	-	120.86	1.01	-	65.8%	66.4%	-
	Fail	Waiver	3	0.1%	597.00	3.50	-	622.67	3.53	-	-4.3%	-0.9%	-
Total	Fail%		2,405	2.0%	41.22	0.09	-	38.78	0.07	-	5.9%	24.1%	-
1996 P	Pass	-	1,944		28.30	0.05	-	28.30	0.05	-	-	-	-
	Fail	Pass	33	1.7%	168.15	1.23	-	36.27	0.08	-	78.4%	93.7%	-
	Fail	Unresolv.	1	0.1%	241.00	3.95	-	91.08	1.24	-	62.2%	68.7%	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		1,978	1.7%	30.74	0.07	-	28.46	0.05	-	7.4%	28.5%	-
1997 P	Pass	-	2,228		23.84	0.04	-	23.84	0.04	-	-	-	-
	Fail	Pass	17	0.8%	41.18	0.28	-	34.18	0.06	-	17.0%	78.2%	-
	Fail	Unresolv.	2	0.1%	2,570.00	2.85	-	842.82	0.92	-	67.2%	67.8%	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		2,247	0.8%	26.24	0.04	-	24.65	0.04	-	6.1%	8.2%	-
1998 P	Pass	-	1,838		21.48	0.03	-	21.48	0.03	-	-	-	-
	Fail	Pass	12	0.6%	23.08	0.01	-	19.17	0.01	-	17.0%	-50.0%	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		1,850	0.6%	21.49	0.03	-	21.46	0.03	-	0.1%	-0.1%	-
1999 P	Pass	-	2,003		16.27	0.02	-	16.27	0.02	-	-	-	-
	Fail	Pass	18	0.9%	44.89	0.33	-	21.06	0.05	-	53.1%	85.0%	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		2,021	0.9%	16.53	0.02	-	16.32	0.02	-	1.3%	11.1%	-
2000 P	Pass	-	517		16.66	0.02	-	16.66	0.02	-	-	-	-
	Fail	Pass	5	1.0%	3.20	-	-	4.20	0.00	-	-31.3%	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		522	1.0%	16.53	0.02	-	16.54	0.02	-	-0.1%	-0.1%	-
2001 P	Pass	-	157		8.47	0.01	-	8.47	0.01	-	-	-	-
	Fail	Pass	2	1.3%	31.00	-	-	1.50	-	-	95.2%	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		159	1.3%	8.75	0.01	-	8.38	0.01	-	4.2%	-	-
2002 P	Pass	-	0		-	-	-	-	-	-	-	-	-
	Fail	Pass	0		-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
<b>Total Passenger Vehicles</b>													
All	Pass	-	25,993		53.22	0.14	0.00	53.22	0.14	0.00	0.0%	0.0%	
P	Fail	Pass	1,015	3.7%	384.89	2.18	0.00	97.78	0.34	0.00	74.6%	84.6%	-
	Fail	Unresolv.	289	1.1%	784.79	3.42	0.00	256.62	1.13	0.00	67.3%	67.1%	-
	Fail	Waiver	153	0.6%	892.54	3.76	0.00	823.83	3.90	0.00	7.7%	-3.7%	-
Total	Fail%		27,450	5.3%	77.86	0.27	0.00	61.30	0.18	0.00	21.3%	33.5%	-
1981 T	Pass	-	1,059		211.08	2.05	-	211.08	2.05	-	-	-	-
	Fail	Pass	228	15.8%	918.31	4.67	-	227.10	2.14	-	75.3%	54.1%	-
	Fail	Unresolv.	101	7.0%	1,104.11	4.08	-	371.69	1.47	-	66.3%	64.0%	-
	Fail	Waiver	52	3.6%	1,337.60	4.51	-	1,285.37	4.21	-	3.9%	6.8%	-
Total	Fail%		1,440	26.5%	426.37	2.70	-	263.67	2.10	-	38.2%	22.0%	-

## Appendix B3 Basic Idle Test Emissions Reductions

Unresolved fails remaining in area:

Model Year/Type	First Result	Last Result	Vehicles	Fail%	Initial			Final			Reduction %		
					HC	CO	NOX	HC	CO	NOX	HC	CO	NOX
1982 T	Pass	-	94		85.71	0.18	-	85.71	0.18	-	-	-	-
	Fail	Pass	42	24.0%	597.02	2.85	-	95.76	0.29	-	84.0%	89.7%	-
	Fail	Unresolv.	28	16.0%	684.46	3.26	-	273.26	1.08	-	60.1%	66.9%	-
	Fail	Waiver	11	6.3%	733.27	3.92	-	643.00	5.03	-	12.3%	-28.2%	-
Total	Fail%		175	46.3%	344.93	1.55	-	153.16	0.66	-	55.6%	57.7%	-
1983 T	Pass	-	177		88.84	0.22	-	88.84	0.22	-	-	-	-
	Fail	Pass	72	24.5%	441.67	2.94	-	106.04	0.24	-	76.0%	91.8%	-
	Fail	Unresolv.	36	12.2%	1,111.00	3.44	-	345.51	1.10	-	68.9%	68.1%	-
	Fail	Waiver	9	3.1%	1,226.33	4.37	-	678.44	3.35	-	44.7%	23.2%	-
Total	Fail%		294	39.8%	335.23	1.40	-	142.53	0.43	-	57.5%	69.7%	-
1984 T	Pass	-	277		88.74	0.21	-	88.74	0.21	-	-	-	-
	Fail	Pass	108	24.5%	480.33	2.51	-	84.99	0.24	-	82.3%	90.6%	-
	Fail	Unresolv.	36	8.2%	632.36	3.12	-	223.07	1.06	-	64.7%	66.0%	-
	Fail	Waiver	19	4.3%	781.00	3.31	-	852.37	4.21	-	-9.1%	-27.1%	-
Total	Fail%		440	37.0%	259.23	1.15	-	131.78	0.46	-	49.2%	60.1%	-
1985 T	Pass	-	390		84.91	0.21	-	84.91	0.21	-	-	-	-
	Fail	Pass	140	22.5%	429.97	2.58	-	96.47	0.32	-	77.6%	87.7%	-
	Fail	Unresolv.	59	9.5%	984.02	3.62	-	322.97	1.13	-	67.2%	68.8%	-
	Fail	Waiver	33	5.3%	758.70	5.40	-	624.48	4.29	-	17.7%	20.6%	-
Total	Fail%		622	37.3%	283.61	1.34	-	138.72	0.54	-	51.1%	59.9%	-
1986 T	Pass	-	554		87.68	0.21	-	87.68	0.21	-	-	-	-
	Fail	Pass	124	16.6%	479.78	2.29	-	85.89	0.32	-	82.1%	86.0%	-
	Fail	Unresolv.	44	5.9%	811.93	3.52	-	281.99	1.09	-	65.3%	69.1%	-
	Fail	Waiver	25	3.3%	894.24	4.31	-	599.88	3.37	-	32.9%	21.6%	-
Total	Fail%		747	25.8%	222.42	0.89	-	115.97	0.39	-	47.9%	56.5%	-
1987 T	Pass	-	686		87.09	0.19	-	87.09	0.19	-	-	-	-
	Fail	Pass	108	12.7%	401.42	2.56	-	94.60	0.33	-	76.4%	87.3%	-
	Fail	Unresolv.	37	4.4%	603.05	2.37	-	200.60	0.78	-	66.7%	67.0%	-
	Fail	Waiver	18	2.1%	775.56	3.07	-	979.44	2.56	-	-26.3%	16.8%	-
Total	Fail%		849	19.2%	164.16	0.65	-	111.91	0.29	-	31.8%	55.9%	-
1988 T	Pass	-	938		83.77	0.18	-	83.77	0.18	-	-	-	-
	Fail	Pass	112	10.2%	412.04	2.22	-	101.79	0.27	-	75.3%	87.9%	-
	Fail	Unresolv.	35	3.2%	662.91	2.59	-	222.48	0.82	-	66.4%	68.2%	-
	Fail	Waiver	18	1.6%	549.17	3.26	-	487.11	3.42	-	11.3%	-5.1%	-
Total	Fail%		1,103	15.0%	143.08	0.51	-	96.59	0.26	-	32.5%	49.0%	-
1989 T	Pass	-	1,083		91.34	0.19	-	91.34	0.19	-	-	-	-
	Fail	Pass	112	9.0%	493.95	2.09	-	109.77	0.25	-	77.8%	87.8%	-
	Fail	Unresolv.	31	2.5%	676.26	3.10	-	232.36	1.18	-	65.6%	61.9%	-
	Fail	Waiver	17	1.4%	755.47	2.56	-	598.82	1.86	-	20.7%	27.2%	-
Total	Fail%		1,243	12.9%	151.29	0.46	-	103.46	0.24	-	31.6%	48.1%	-
1990 T	Pass	-	1,078		85.43	0.19	-	85.43	0.19	-	-	-	-
	Fail	Pass	101	8.4%	350.99	1.99	-	100.71	0.28	-	71.3%	85.9%	-
	Fail	Unresolv.	10	0.8%	800.70	1.96	-	184.77	0.71	-	76.9%	63.8%	-
	Fail	Waiver	9	0.8%	476.67	1.53	-	407.78	2.73	-	14.5%	-78.8%	-
Total	Fail%		1,198	10.0%	116.73	0.37	-	89.97	0.23	-	22.9%	39.2%	-
1991 T	Pass	-	1,170		76.74	0.15	-	76.74	0.15	-	-	-	-
	Fail	Pass	80	6.3%	466.40	2.12	-	88.64	0.18	-	81.0%	91.6%	-
	Fail	Unresolv.	12	0.9%	539.08	3.23	-	189.53	1.17	-	64.8%	63.7%	-
	Fail	Waiver	12	0.9%	604.50	5.08	-	542.33	4.81	-	10.3%	5.4%	-
Total	Fail%		1,274	8.2%	110.53	0.35	-	82.93	0.20	-	25.0%	41.4%	-
1992 T	Pass	-	1,385		78.23	0.15	-	78.23	0.15	-	-	-	-
	Fail	Pass	73	5.0%	327.84	1.73	-	91.75	0.13	-	72.0%	92.7%	-
	Fail	Unresolv.	4	0.3%	373.75	0.66	-	130.27	0.22	-	65.1%	67.2%	-
	Fail	Waiver	7	0.5%	595.29	2.09	-	690.57	1.92	-	-16.0%	7.8%	-
Total	Fail%		1,469	5.7%	93.90	0.24	-	81.96	0.16	-	12.7%	34.4%	-
1993 T	Pass	-	1,670		73.61	0.15	-	73.61	0.15	-	-	-	-
	Fail	Pass	67	3.8%	512.37	1.71	-	85.81	0.12	-	83.3%	93.1%	-
	Fail	Unresolv.	9	0.5%	774.78	5.67	-	220.77	1.73	-	71.5%	69.5%	-
	Fail	Waiver	5	0.3%	532.20	1.77	-	548.00	1.77	-	-3.0%	-0.0%	-
Total	Fail%		1,751	4.6%	95.31	0.25	-	76.19	0.16	-	20.1%	33.0%	-

## Appendix B3 Basic Idle Test Emissions Reductions

Unresolved fails remaining in area:

Model Year/Type	First Result	Last Result	Vehicles	Fail%	33%			HC	Initial CO	NOX	HC	Final CO	NOX	Reduction %		
					HC	CO	NOX							HC	CO	NOX
1994 T	Pass	-	1,869		62.80	0.16	-	62.80	0.16	-	-	-	-	-	-	-
	Fail	Pass	48	2.5%	190.19	0.50	-	71.13	0.15	-	62.6%	69.3%	-	-	-	-
	Fail	Unresolv.	2	0.1%	647.00	0.42	-	221.43	0.14	-	65.8%	67.4%	-	-	-	-
	Fail	Waiver	3	0.2%	485.33	0.75	-	389.00	0.48	-	19.8%	36.7%	-	-	-	-
Total	Fail%		1,922	2.8%	67.25	0.17	-	63.68	0.16	-	5.3%	5.5%	-	-	-	-
1995 T	Pass	-	2,073		56.90	0.13	-	56.90	0.13	-	-	-	-	-	-	-
	Fail	Pass	58	2.7%	231.24	0.52	-	71.45	0.13	-	69.1%	74.7%	-	-	-	-
	Fail	Unresolv.	6	0.3%	540.33	1.15	-	178.20	0.37	-	67.0%	67.7%	-	-	-	-
	Fail	Waiver	5	0.2%	875.20	3.14	-	809.20	3.50	-	7.5%	-11.5%	-	-	-	-
Total	Fail%		2,142	3.2%	64.89	0.16	-	59.39	0.14	-	8.5%	7.7%	-	-	-	-
1996 T	Pass	-	1,653		30.96	0.09	-	30.96	0.09	-	-	-	-	-	-	-
	Fail	Pass	19	1.1%	49.11	0.45	-	34.32	0.12	-	30.1%	72.5%	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	Fail%		1,672	1.1%	31.17	0.09	-	31.00	0.09	-	0.5%	4.2%	-	-	-	-
1997 T	Pass	-	2,065		26.18	0.07	-	26.18	0.07	-	-	-	-	-	-	-
	Fail	Pass	26	1.2%	104.54	0.56	-	24.65	0.08	-	76.4%	85.3%	-	-	-	-
	Fail	Unresolv.	1	0.0%	398.00	6.46	-	154.44	2.09	-	61.2%	67.7%	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	Fail%		2,092	1.3%	27.33	0.08	-	26.22	0.07	-	4.1%	9.8%	-	-	-	-
1998 T	Pass	-	2,051		20.70	0.06	-	20.70	0.06	-	-	-	-	-	-	-
	Fail	Pass	7	0.3%	11.29	0.01	-	18.86	0.00	-	-67.1%	66.7%	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	Fail%		2,058	0.3%	20.67	0.06	-	20.69	0.06	-	-0.1%	0.0%	-	-	-	-
1999 T	Pass	-	2,162		14.47	0.03	-	14.47	0.03	-	-	-	-	-	-	-
	Fail	Pass	11	0.5%	14.27	0.02	-	13.18	0.01	-	7.6%	60.0%	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	Fail%		2,173	0.5%	14.47	0.03	-	14.46	0.03	-	0.0%	0.2%	-	-	-	-
2000 T	Pass	-	382		13.37	0.03	-	13.37	0.03	-	-	-	-	-	-	-
	Fail	Pass	8	2.1%	21.63	0.11	-	29.13	0.16	-	-34.7%	-40.4%	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	Fail%		390	2.1%	13.54	0.03	-	13.70	0.03	-	-1.1%	-3.3%	-	-	-	-
2001 T	Pass	-	73		10.36	0.02	-	10.36	0.02	-	-	-	-	-	-	-
	Fail	Pass	3	3.9%	20.33	0.01	-	15.00	0.02	-	26.2%	-75.0%	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	Fail%		76	3.9%	10.75	0.02	-	10.54	0.02	-	2.0%	-2.4%	-	-	-	-
2002 T	Pass	-	0		-	-	-	-	-	-	-	-	-	-	-	-
	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Trucks</b>																
All	Pass	-	22,889		62.22	0.21	0.00	62.22	0.21	0.00	0.0%	0.0%	-	-	-	-
T	Fail	Pass	1,547	6.2%	478.55	2.43	0.00	109.76	0.52	0.00	77.1%	78.7%	-	-	-	-
	Fail	Unresolv.	451	1.8%	846.08	3.34	0.00	283.44	1.12	0.00	66.5%	66.4%	-	-	-	-
	Fail	Waiver	243	1.0%	871.53	3.87	0.00	787.49	3.59	0.00	9.6%	7.1%	-	-	-	-
Total	Fail%		25,130	8.9%	109.74	0.44	0.00	76.13	0.28	0.00	30.6%	36.3%	-	-	-	-
<b>Fleet Total</b>																
All	Pass	-	48,882		57.43	0.18	-	57.43	0.18	-	-	-	-	-	-	-
All	Fail	Pass	2,562	4.9%	441.44	2.33	-	105.01	0.45	-	76.2%	80.9%	-	-	-	-
	Fail	Unresolv.	740	1.4%	822.14	3.38	-	272.97	1.13	-	66.8%	66.7%	-	-	-	-
	Fail	Waiver	396	0.8%	879.65	3.82	-	801.53	3.71	-	8.9%	3.0%	-	-	-	-
Total	Fail%		52,580	7.0%	93.10	0.35	-	68.39	0.23	-	26.5%	35.1%	-	-	-	-

## Appendix B3 Basic Idle Test Emissions Reductions - RapidScreen Audit Vehicles

Unresolved fails remaining in area					33%						Reduction %		
Model Year/Type	First Result	Last Result	Vehicles	Fail%	Initial HC	Initial CO	Initial NOX	Final HC	Final CO	Final NOX	HC Reduction %	CO Reduction %	NOX Reduction %
1981 P	Pass	-	0	-	-	-	-	-	-	-	-	-	-
	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
1982 P	Pass	-	0	-	-	-	-	-	-	-	-	-	-
	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
1983 P	Pass	-	0	-	-	-	-	-	-	-	-	-	-
	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
1984 P	Pass	-	0	-	-	-	-	-	-	-	-	-	-
	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
1985 P	Pass	-	0	-	-	-	-	-	-	-	-	-	-
	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
1986 P	Pass	-	0	-	-	-	-	-	-	-	-	-	-
	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
1987 P	Pass	-	0	-	-	-	-	-	-	-	-	-	-
	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
1988 P	Pass	-	0	-	-	-	-	-	-	-	-	-	-
	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
1989 P	Pass	-	1	29.00	0.04	-	29.00	0.04	-	-	-	-	-
	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		1	29.00	0.04	-	29.00	0.04	-	-	-	-	-
1990 P	Pass	-	0	-	-	-	-	-	-	-	-	-	-
	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
1991 P	Pass	-	2	18.00	0.03	-	18.00	0.03	-	-	-	-	-
	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		2	18.00	0.03	-	18.00	0.03	-	-	-	-	-
1992 P	Pass	-	0	-	-	-	-	-	-	-	-	-	-
	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-

### Appendix B3 Basic Idle Test Emissions Reductions - RapidScreen Audit Vehicles

Unresolved fails remaining in area					33%								
Model Year/Type	First Result	Last Result	Vehicles	Fail%	Initial			Final			Reduction %		
					HC	CO	NOX	HC	CO	NOX	HC	CO	NOX
1993 P	Pass	-	2	-	74.50	0.06	-	74.50	0.06	-	-	-	-
	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		2	-	74.50	0.06	-	74.50	0.06	-	-	-	-
1994 P	Pass	-	0	-	-	-	-	-	-	-	-	-	-
	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
1995 P	Pass	-	4	-	32.00	0.10	-	32.00	0.10	-	-	-	-
	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		4	-	32.00	0.10	-	32.00	0.10	-	-	-	-
1996 P	Pass	-	2	-	5.50	-	-	5.50	-	-	-	-	-
	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		2	-	5.50	-	-	5.50	-	-	-	-	-
1997 P	Pass	-	6	-	12.00	-	-	12.00	-	-	-	-	-
	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		6	-	12.00	-	-	12.00	-	-	-	-	-
1998 P	Pass	-	1	-	50.00	0.06	-	50.00	0.06	-	-	-	-
	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		1	-	50.00	0.06	-	50.00	0.06	-	-	-	-
1999 P	Pass	-	7	-	21.43	0.02	-	21.43	0.02	-	-	-	-
	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		7	-	21.43	0.02	-	21.43	0.02	-	-	-	-
2000 P	Pass	-	0	-	-	-	-	-	-	-	-	-	-
	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
2001 P	Pass	-	0	-	-	-	-	-	-	-	-	-	-
	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
2002 P	Pass	-	0	-	-	-	-	-	-	-	-	-	-
	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
<b>Total Passenger Vehicles</b>													
All	Pass	-	25	-	25.00	0.03	0.00	25.00	0.03	0.00	0.0%	0.0%	-
P	Fail	Pass	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	-	-	-
	Fail	Unresolv.	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	-	-	-
	Fail	Waiver	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	-	-	-
Total	Fail%		25	0.0%	25.00	0.03	0.00	25.00	0.03	0.00	0.0%	0.0%	-
1981 T	Pass	-	0	-	-	-	-	-	-	-	-	-	-
	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-

## Appendix B3 Basic Idle Test Emissions Reductions - RapidScreen Audit Vehicles

Unresolved fails remaining in area					33%						Reduction %		
Model Year/Type	First Result	Last Result	Vehicles	Fail%	Initial HC	Initial CO	Initial NOX	Final HC	Final CO	Final NOX	HC Reduction %	CO Reduction %	NOX Reduction %
1982	Pass	-	0	-	-	-	-	-	-	-	-	-	-
	T Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
1983	Pass	-	0	-	-	-	-	-	-	-	-	-	-
	T Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
1984	Pass	-	0	-	-	-	-	-	-	-	-	-	-
	T Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
1985	Pass	-	1	27.00	-	-	-	27.00	-	-	-	-	-
	T Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		1	-	27.00	-	-	27.00	-	-	-	-	-
1986	Pass	-	0	-	-	-	-	-	-	-	-	-	-
	T Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
1987	Pass	-	0	-	-	-	-	-	-	-	-	-	-
	T Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
1988	Pass	-	0	-	-	-	-	-	-	-	-	-	-
	T Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
1989	Pass	-	0	-	-	-	-	-	-	-	-	-	-
	T Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
1990	Pass	-	0	-	-	-	-	-	-	-	-	-	-
	T Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
1991	Pass	-	0	-	-	-	-	-	-	-	-	-	-
	T Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
1992	Pass	-	3	12.33	0.01	-	-	12.33	0.01	-	-	-	-
	T Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		3	-	12.33	0.01	-	12.33	0.01	-	-	-	-
1993	Pass	-	1	10.00	-	-	-	10.00	-	-	-	-	-
	T Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		1	-	10.00	-	-	10.00	-	-	-	-	-

### Appendix B3 Basic Idle Test Emissions Reductions - RapidScreen Audit Vehicles

Unresolved fails remaining in area

Model Year/Type	First Result	Last Result	Vehicles	Fail%	33%			Final			Reduction %		
					HC	Initial CO	NOX	HC	CO	NOX	HC	CO	NOX
1994 T	Pass	-	3		90.00	0.25	-	90.00	0.25	-	-	-	-
	Fail	Pass	0		-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0		-	-	-	-	-	-	-	-	-
	Fail	Waiver	0		-	-	-	-	-	-	-	-	-
Total	Fail%		3		90.00	0.25	-	90.00	0.25	-	-	-	-
1995 T	Pass	-	5		24.20	0.04	-	24.20	0.04	-	-	-	-
	Fail	Pass	0		-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0		-	-	-	-	-	-	-	-	-
	Fail	Waiver	0		-	-	-	-	-	-	-	-	-
Total	Fail%		5		24.20	0.04	-	24.20	0.04	-	-	-	-
1996 T	Pass	-	0		-	-	-	-	-	-	-	-	-
	Fail	Pass	0		-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0		-	-	-	-	-	-	-	-	-
	Fail	Waiver	0		-	-	-	-	-	-	-	-	-
Total	Fail%		0		-	-	-	-	-	-	-	-	-
1997 T	Pass	-	2		22.50	0.06	-	22.50	0.06	-	-	-	-
	Fail	Pass	1	33.3%	10.00	0.01	-	11.00	0.01	-	-10.0%	-	-
	Fail	Unresolv.	0		-	-	-	-	-	-	-	-	-
	Fail	Waiver	0		-	-	-	-	-	-	-	-	-
Total	Fail%		3	33.3%	18.33	0.05	-	18.67	0.05	-	-1.8%	-	-
1998 T	Pass	-	2		11.00	-	-	11.00	-	-	-	-	-
	Fail	Pass	0		-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0		-	-	-	-	-	-	-	-	-
	Fail	Waiver	0		-	-	-	-	-	-	-	-	-
Total	Fail%		2		11.00	-	-	11.00	-	-	-	-	-
1999 T	Pass	-	5		7.60	-	-	7.60	-	-	-	-	-
	Fail	Pass	0		-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0		-	-	-	-	-	-	-	-	-
	Fail	Waiver	0		-	-	-	-	-	-	-	-	-
Total	Fail%		5		7.60	-	-	7.60	-	-	-	-	-
2000 T	Pass	-	0		-	-	-	-	-	-	-	-	-
	Fail	Pass	0		-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0		-	-	-	-	-	-	-	-	-
	Fail	Waiver	0		-	-	-	-	-	-	-	-	-
Total	Fail%		0		-	-	-	-	-	-	-	-	-
2001 T	Pass	-	0		-	-	-	-	-	-	-	-	-
	Fail	Pass	0		-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0		-	-	-	-	-	-	-	-	-
	Fail	Waiver	0		-	-	-	-	-	-	-	-	-
Total	Fail%		0		-	-	-	-	-	-	-	-	-
2002 T	Pass	-	0		-	-	-	-	-	-	-	-	-
	Fail	Pass	0		-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0		-	-	-	-	-	-	-	-	-
	Fail	Waiver	0		-	-	-	-	-	-	-	-	-
Total	Fail%		0		-	-	-	-	-	-	-	-	-
<b>Total Trucks</b>													
All	Pass	-	22		25.91	0.05	0.00	25.91	0.05	0.00	0.0%	0.0%	-
T	Fail	Pass	1	4.3%	10.00	0.01	0.00	11.00	0.01	0.00	-10.0%	0.0%	-
	Fail	Unresolv.	0	0.0%	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	0.0%	-	-	-	-	-	-	-	-	-
Total	Fail%		23	4.3%	25.22	0.05	0.00	25.26	0.05	0.00	-0.2%	0.0%	-
<b>Fleet Total</b>													
All	Pass	-	47		25.43	0.04	-	25.43	0.04	-	-	-	-
All	Fail	Pass	1	2.1%	10.00	0.01	-	11.00	0.01	-	-10.0%	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		48	2.1%	25.10	0.04	-	25.13	0.04	-	-0.1%	-	-

## Appendix B4 Tailpipe Test Emissions Reduction Summary

### IM240 Emissions Reductions

First Result	Last Result	Vehicles	Fail %	Initial HC CO NOX			Final HC CO NOX			Reduction % HC CO NOX		
<b>Station Based Tests</b>												
Pass	-	479,417	-	0.43	4.56	1.24	0.43	4.56	1.24	-	-	-
Fail	Pass	19,565	3.8%	2.61	34.67	2.29	0.85	9.31	1.92	67.6%	73.2%	16.1%
Fail	Unresolv.	5,273	1.0%	5.35	64.36	2.81	1.76	21.09	0.93	67.2%	67.2%	66.8%
Fail	Waiver	6,528	1.3%	5.15	63.45	2.85	4.65	59.32	2.80	9.7%	6.5%	1.8%
Total	Fail%	510,783	6.1%	0.62	7.08	1.32	0.51	5.61	1.28	17.9%	20.8%	2.6%
<b>RapidScreen Audit Vehicles</b>												
Pass	-	3,077	-	0.28	3.06	0.93	0.28	3.06	0.93	-	-	-
Fail	Pass	55	1.8%	1.86	18.59	1.57	0.62	6.47	1.48	66.8%	65.2%	6.1%
Fail	Unresolv.	2	0.1%	7.39	22.55	3.90	2.44	7.44	1.29	67.0%	67.0%	67.0%
Fail	Waiver	8	0.3%	2.05	22.00	2.63	2.03	17.14	2.35	1.1%	22.1%	10.6%
Total	Fail%	3,142	2.1%	0.31	3.39	0.95	0.29	3.16	0.95	8.0%	6.9%	0.4%

### Enhanced Idle Emissions Reductions

First Result	Last Result	Vehicles	Fail %	Initial HC CO NOX			Final HC CO NOX			Reduction % HC CO NOX		
<b>Station Based Tests</b>												
Pass	-	23,032	-	123	0.73	-	123	0.73	-	-	-	-
Fail	Pass	1,860	6.9%	854	3.19	-	209	1.34	-	75.6%	58.1%	-
Fail	Unresolv.	1,152	4.3%	1,082	3.29	-	359	1.07	-	66.8%	67.5%	-
Fail	Waiver	906	3.4%	1,173	3.36	-	1,134	3.33	-	3.3%	0.8%	-
Total	Fail%	26,950	14.5%	250	1.10	-	173	0.88	-	30.7%	20.3%	-
<b>RapidScreen Audit Vehicles</b>												
Pass	-	90	-	45	0.08	-	45	0.08	-	-	-	-
Fail	Pass	4	4.3%	29	0.05	-	62	0.17	-	-114.8%	-277.8%	-
Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%	94	4.3%	44	0.08	-	46	0.09	-	-3.2%	-6.5%	-

### Basic Idle Emissions Reductions

First Result	Last Result	Vehicles	Fail %	Initial HC CO NOX			Final HC CO NOX			Reduction % HC CO NOX		
<b>Station Based Tests</b>												
Pass	-	48,882	-	57	0.18	-	57	0.18	-	-	-	-
Fail	Pass	2,562	4.9%	441	2.33	-	105	0.45	-	76.2%	80.9%	-
Fail	Unresolv.	740	1.4%	822	3.38	-	273	1.13	-	66.8%	66.7%	-
Fail	Waiver	396	0.8%	880	3.82	-	802	3.71	-	8.9%	3.0%	-
Total	Fail%	52,580	7.0%	93	0.35	-	68	0.23	-	26.5%	35.1%	-
<b>RapidScreen Audit Vehicles</b>												
Pass	-	47	-	25	0.04	-	25	0.04	-	-	-	-
Fail	Pass	1	2.1%	10	0.01	-	11	0.01	-	-10.0%	-	-
Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%	48	2.1%	25	0.04	-	25	0.04	-	-0.1%	-	-

# Appendix C – Annual IM240 Equivalent Tons

- **C1 – IM240 Tests**
- **C2 – Enhanced Idle Tests**
- **C3 – Basic Idle Tests**
- **C4 – Enhanced and Basic Reductions**

## Appendix C Notes and Assumptions

**Model Year/Type** – Vehicles are grouped by model year and type. Type “P” are light duty passenger vehicles (LDGV) and type “T” are light duty trucks (LDGT). On pages showing results for Enhanced and Basic Idle tests, results for model year 1980 and older vehicles are included in the first section of the table along with the results for the 1981 model vehicles.

**Tons Per Year** – Tons of emissions produced or eliminated by the vehicles tested during one year of travel assuming the IM240 driving cycle.

Does not include cold start emissions, off-cycle emissions, evaporative emissions, different driving cycles or the effects of speed and temperature corrections.

### Example Calculations:

#### **IM240 Results, 1981 Model Year Type P (LDGV)**

Appendix B1: 1,657 vehicles in year with initial test average of 37.15 g/mi CO

VMT Table VII-6: 1981 LDGV = 5,420 miles/yr

Initial tons/yr CO: 1,657 vehicles x 37.15 g/mi CO x 5420 mi/yr / 907,186 g/ton = 367.8 tons/yr

#### **Enhanced Idle Results, 1981 & older Type P (LDGV)**

Appendix B2: 7,452 vehicles in year with initial test average of 400.43 ppm HC

Table VII-4: IM240 g/mi =  $0.0106^*$  x 400.43 ppm HC - 0.3750 = 3.8828 g/mi HC

VMT Table VII-6: 1981 LDGV = 5,420 miles/yr

Initial tons/yr HC: 7,452 vehicles x 3.8828 g/mi HC x 5420 mi/yr / 907,186 g/ton = 172.9 tons/yr

\* Actual value is 0.010633

**Appendix C1**  
**Enhanced IM240 Test Reductions**

Type	Annual Miles	Unique Vehicles	Initial Tons/Yr			Final Tons/Yr			Reduction Tons/Yr		
			HC	CO	NOX	HC	CO	NOX	HC	CO	NOX
P 1981	5,420	1,657	22.4	367.8	21.5	15.0	249.2	19.4	7.4	118.6	2.1
P 1982	5,701	603	8.9	134.2	9.4	5.9	83.0	8.1	3.0	51.2	1.2
P 1983	5,997	3,790	44.9	649.6	60.8	31.3	424.1	57.7	13.5	225.5	3.1
P 1984	6,308	2,128	28.5	410.4	35.8	18.9	257.3	32.8	9.6	153.1	3.0
P 1985	6,636	10,284	125.8	1,620.7	174.5	90.6	1,074.3	166.5	35.1	546.3	7.9
P 1986	6,980	4,273	53.7	612.6	74.8	38.0	414.7	69.5	15.7	197.9	5.3
P 1987	7,342	16,171	164.3	1,770.8	288.3	125.6	1,257.5	280.7	38.7	513.3	7.7
P 1988	7,723	6,544	69.4	693.0	113.6	53.1	481.7	110.7	16.3	211.3	2.9
P 1989	8,124	26,026	229.0	2,289.4	465.8	189.2	1,724.3	460.1	39.8	565.1	5.7
P 1990	8,546	8,474	84.7	871.3	165.7	65.6	624.0	162.3	19.1	247.2	3.4
P 1991	8,989	31,614	223.4	2,661.9	530.8	173.5	1,950.1	499.8	49.9	711.8	31.0
P 1992	9,456	9,338	69.7	847.9	149.6	53.6	605.2	141.8	16.0	242.7	7.8
P 1993	9,947	36,739	225.2	2,678.0	586.7	187.8	2,114.3	570.3	37.3	563.7	16.4
P 1994	10,463	9,768	51.7	561.2	127.9	44.2	474.4	125.1	7.5	86.9	2.9
P 1995	11,006	43,172	170.2	1,830.5	470.4	149.5	1,595.5	464.1	20.6	235.0	6.3
P 1996	11,577	9,861	27.5	340.0	87.6	25.7	308.3	86.6	1.9	31.8	1.0
P 1997	12,178	40,715	89.7	1,084.1	327.9	84.9	1,006.9	325.9	4.7	77.2	2.0
P 1998	12,810	13,704	25.3	342.9	86.1	24.5	331.0	85.9	0.8	11.9	0.2
P 1999	13,475	45,838	55.7	850.9	243.4	53.4	789.9	242.6	2.2	61.1	0.8
P 2000	14,174	14,629	13.6	197.1	61.4	13.2	191.0	61.5	0.4	6.0	-0.1
P 2001	14,910	6,875	3.4	58.0	17.4	3.4	57.2	17.3	0.1	0.8	0.0
P Total		342,203	1,786.8	20,872.1	4,099.4	1,447.1	16,013.8	3,988.6	339.7	4,858.2	110.8
T 1981	4,154	653	10.2	131.9	10.1	8.1	107.7	9.5	2.2	24.2	0.6
T 1982	4,588	302	5.4	63.3	5.1	4.2	53.5	4.6	1.2	9.8	0.5
T 1983	5,055	1,602	27.8	367.3	27.5	23.8	323.9	26.5	4.0	43.3	1.0
T 1984	5,556	816	16.9	229.3	14.2	11.4	158.3	13.0	5.5	70.9	1.2
T 1985	6,093	3,885	68.8	902.5	71.8	48.6	687.8	68.2	20.3	214.8	3.7
T 1986	6,663	1,564	27.8	325.7	31.5	19.9	246.5	29.6	7.9	79.2	1.9
T 1987	7,269	6,664	96.8	1,026.2	148.2	80.2	854.3	145.5	16.6	171.9	2.7
T 1988	7,911	2,459	38.8	346.4	59.8	29.9	274.5	56.3	8.9	71.9	3.4
T 1989	8,589	10,639	156.4	1,566.5	266.2	129.3	1,267.2	257.0	27.0	299.3	9.2
T 1990	9,305	2,550	40.5	394.9	70.1	32.3	311.2	68.1	8.2	83.7	2.0
T 1991	10,057	13,258	170.3	1,774.3	325.8	148.8	1,504.6	317.6	21.6	269.7	8.1
T 1992	10,849	3,472	47.4	485.2	93.5	40.4	397.7	92.2	7.0	87.5	1.3
T 1993	11,681	17,575	219.2	2,114.7	530.1	198.8	1,877.0	524.3	20.4	237.6	5.9
T 1994	12,553	4,968	56.3	552.2	135.0	52.9	520.6	133.2	3.4	31.6	1.8
T 1995	13,465	21,783	219.4	2,329.0	605.0	209.5	2,233.2	599.8	9.8	95.8	5.2
T 1996	14,420	5,011	22.4	297.9	86.6	21.8	288.1	85.0	0.5	9.8	1.6
T 1997	15,417	22,503	84.9	1,263.9	375.9	82.2	1,211.0	371.7	2.7	52.9	4.2
T 1998	16,459	8,799	28.1	399.5	130.7	27.9	397.1	130.0	0.2	2.4	0.6
T 1999	17,546	30,238	71.9	899.1	350.6	70.7	884.4	349.9	1.2	14.6	0.8
T 2000	18,680	7,164	13.3	173.8	63.3	13.3	172.7	63.3	0.1	1.1	0.0
T 2001	19,863	2,586	2.9	54.5	15.1	2.9	54.8	15.2	0.0	-0.2	-0.1
T Total		168,491	1,425.6	15,698.0	3,416.0	1,256.9	13,826.1	3,360.5	168.7	1,871.9	55.4
Total		510,694	3,212.5	36,570.0	7,515.4	2,704.1	29,839.9	7,349.2	508.4	6,730.1	166.2

**Appendix C1**  
**Enhanced IM240 Audit Reductions**

<b>Type</b>	<b>Annual Miles</b>	<b>Unique Vehicles</b>	<b>Initial Tons/Yr</b>			<b>Final Tons/Yr</b>			<b>Reduction Tons/Yr</b>		
			<b>HC</b>	<b>CO</b>	<b>NOX</b>	<b>HC</b>	<b>CO</b>	<b>NOX</b>	<b>HC</b>	<b>CO</b>	<b>NOX</b>
P 1981	5,420	-	0.0	-	-	0.0	-	-	0.0	0.0	0.0
P 1982	5,701	-	0.0	-	-	0.0	-	-	0.0	0.0	0.0
P 1983	5,997	2	0.0	0.0	0.03	0.0	0.0	0.03	0.0	0.0	0.0
P 1984	6,308	-	0.0	-	-	0.0	-	-	0.0	0.0	0.0
P 1985	6,636	11	0.1	0.3	0.12	0.1	0.3	0.12	0.0	0.0	0.0
P 1986	6,980	2	0.0	0.1	0.05	0.0	0.1	0.05	0.0	0.0	0.0
P 1987	7,342	22	0.2	1.8	0.40	0.1	1.4	0.38	0.0	0.5	0.0
P 1988	7,723	1	0.0	0.0	0.02	0.0	0.0	0.02	0.0	0.0	0.0
P 1989	8,124	79	0.8	4.3	1.12	0.5	3.6	1.09	0.2	0.8	0.0
P 1990	8,546	16	0.1	1.7	0.34	0.1	1.1	0.35	0.0	0.6	0.0
P 1991	8,989	134	0.7	8.8	1.99	0.7	7.1	1.99	0.1	1.7	0.0
P 1992	9,456	23	0.2	1.2	0.35	0.1	1.0	0.34	0.1	0.2	0.0
P 1993	9,947	229	1.0	11.9	3.66	1.0	11.5	3.64	0.0	0.4	0.0
P 1994	10,463	32	0.2	1.6	0.49	0.2	1.6	0.45	0.0	0.1	0.0
P 1995	11,006	417	1.4	14.7	4.37	1.4	14.3	4.37	0.0	0.5	0.0
P 1996	11,577	46	0.1	1.2	0.29	0.1	1.2	0.30	0.0	0.0	0.0
P 1997	12,178	484	1.0	12.1	3.87	1.0	12.1	3.83	0.0	0.0	0.0
P 1998	12,810	62	0.1	2.0	0.49	0.1	1.8	0.50	0.0	0.3	0.0
P 1999	13,475	504	0.6	9.1	2.73	0.6	9.1	2.73	0.0	0.0	0.0
P 2000	14,174	6	0.0	0.1	0.03	0.0	0.1	0.03	0.0	0.0	0.0
P 2001	14,910	-	0.0	-	-	0.0	-	-	0.0	0.0	0.0
P Total		2,070	6.5	71.2	20.35	6.0	66.2	20.22	0.5	5.0	0.1
T 1981	4,154	1	0.0	0.0	0.00	0.0	0.0	0.00	0.0	0.0	0.0
T 1982	4,588	-	0.0	-	-	0.0	-	-	0.0	0.0	0.0
T 1983	5,055	1	0.0	0.0	0.01	0.0	0.0	0.01	0.0	0.0	0.0
T 1984	5,556	-	0.0	-	-	0.0	-	-	0.0	0.0	0.0
T 1985	6,093	2	0.0	0.2	0.02	0.0	0.2	0.02	0.0	0.0	0.0
T 1986	6,663	-	0.0	-	-	0.0	-	-	0.0	0.0	0.0
T 1987	7,269	5	0.0	0.2	0.08	0.0	0.2	0.08	0.0	0.0	0.0
T 1988	7,911	2	0.0	0.1	0.02	0.0	0.1	0.02	0.0	0.0	0.0
T 1989	8,589	12	0.1	1.4	0.21	0.1	1.5	0.20	0.0	0.0	0.0
T 1990	9,305	4	0.0	0.4	0.14	0.0	0.4	0.14	0.0	0.0	0.0
T 1991	10,057	41	0.4	5.2	0.86	0.4	4.3	0.86	0.0	0.9	0.0
T 1992	10,849	9	0.1	0.8	0.29	0.1	0.8	0.29	0.0	0.0	0.0
T 1993	11,681	86	1.0	8.8	2.17	0.9	8.1	2.15	0.2	0.7	0.0
T 1994	12,553	24	0.3	2.1	0.52	0.2	2.0	0.53	0.0	0.2	0.0
T 1995	13,465	176	1.8	17.5	4.60	1.6	17.0	4.60	0.2	0.5	0.0
T 1996	14,420	28	0.1	1.2	0.47	0.1	1.2	0.47	0.0	0.0	0.0
T 1997	15,417	286	1.0	17.8	5.02	1.0	16.7	5.03	0.0	1.1	0.0
T 1998	16,459	32	0.1	1.2	0.44	0.1	1.2	0.44	0.0	0.0	0.0
T 1999	17,546	357	0.8	9.3	4.33	0.8	9.3	4.34	0.0	0.0	0.0
T 2000	18,680	6	0.0	0.2	0.06	0.0	0.2	0.06	0.0	0.0	0.0
T 2001	19,863	-	0.0	-	-	0.0	-	-	0.0	0.0	0.0
T Total		1,072	5.9	66.5	19.24	5.5	63.2	19.24	0.4	3.2	0.0
Total		3,142	12.3	137.7	39.59	11.5	129.5	39.47	0.9	8.2	0.1

**Appendix C2**  
**Enhanced Area Idle Test Reductions**

Type	Annual Miles	Unique Vehicles	Initial Tons/Yr			Final Tons/Yr			Reduction Tons/Yr		
			HC	CO	NOX	HC	CO	NOX	HC	CO	NOX
P 1981	5,420	7,452	172.9	3,238.5		119.8	2,711.6		53.0	526.9	-
P 1982	5,701	64	1.5	5.1		0.8	5.2		0.8	-0.1	-
P 1983	5,997	227	4.6	48.8		2.8	35.1		1.8	13.7	-
P 1984	6,308	185	4.4	45.7		2.6	24.7		1.8	21.0	-
P 1985	6,636	464	7.1	90.2		4.2	53.0		2.9	37.2	-
P 1986	6,980	164	3.7	46.4		2.6	31.6		1.1	14.8	-
P 1987	7,342	410	7.2	83.9		4.1	46.5		3.1	37.3	-
P 1988	7,723	142	2.9	31.5		2.1	16.9		0.8	14.6	-
P 1989	8,124	369	6.0	49.4		3.5	27.5		2.5	22.0	-
P 1990	8,546	121	1.6	21.2		0.8	11.8		0.8	9.4	-
P 1991	8,989	798	6.5	69.3		4.8	42.4		1.6	26.9	-
P 1992	9,456	233	2.7	19.9		1.5	13.1		1.2	6.8	-
P 1993	9,947	957	5.8	59.1		4.3	34.6		1.4	24.5	-
P 1994	10,463	284	1.2	11.0		1.1	9.3		0.2	1.7	-
P 1995	11,006	1,113	1.5	9.7		0.5	6.2		1.0	3.6	-
P 1996	11,577	198	-0.1	0.3		-0.1	0.2		0.0	0.1	-
P 1997	12,178	928	-0.4	-5.3		-1.1	-11.8		0.6	6.5	-
P 1998	12,810	232	-0.1	-2.8		-0.1	-2.8		0.0	0.0	-
P 1999	13,475	1,066	-2.2	-20.9		-2.2	-20.9		0.0	0.0	-
P 2000	14,174	203	-0.6	-4.9		-0.7	-4.7		0.1	-0.2	-
P 2001	14,910	169	-0.8	-5.8		-0.8	-5.8		0.0	0.0	-
P Total		15,779	225.4	3,790.3	-	150.6	3,023.8	-	74.7	766.6	-
T 1981	4,154	3,907	99.5	1,224.9		62.5	1,011.0		37.0	213.9	-
T 1982	4,588	44	0.8	9.6		0.4	3.7		0.4	5.9	-
T 1983	5,055	227	5.7	50.4		3.1	21.8		2.6	28.6	-
T 1984	5,556	135	3.6	48.7		2.0	21.4		1.6	27.4	-
T 1985	6,093	521	11.7	96.7		6.5	58.9		5.2	37.8	-
T 1986	6,663	192	6.3	49.0		3.4	27.2		2.9	21.9	-
T 1987	7,269	633	12.1	94.0		7.9	54.9		4.2	39.2	-
T 1988	7,911	208	4.2	33.9		3.2	20.4		1.0	13.5	-
T 1989	8,589	576	11.8	112.3		7.6	59.6		4.2	52.7	-
T 1990	9,305	107	1.7	20.3		1.3	14.8		0.4	5.6	-
T 1991	10,057	468	7.3	56.2		5.0	36.7		2.3	19.5	-
T 1992	10,849	112	2.5	23.1		1.5	11.7		1.0	11.4	-
T 1993	11,681	441	6.9	54.8		5.8	45.9		1.1	8.9	-
T 1994	12,553	135	2.5	19.4		1.7	16.4		0.9	3.0	-
T 1995	13,465	382	4.8	45.8		3.9	39.1		0.8	6.6	-
T 1996	14,420	101	0.8	11.3		0.7	8.2		0.1	3.2	-
T 1997	15,417	881	1.7	28.3		1.7	28.4		0.0	0.0	-
T 1998	16,459	355	1.3	17.8		1.3	17.8		0.0	0.0	-
T 1999	17,546	1,296	1.8	36.2		1.8	36.2		0.0	0.0	-
T 2000	18,680	306	0.1	8.1		0.0	8.1		0.0	0.0	-
T 2001	19,863	140	-0.1	2.7		-0.1	2.7		0.0	0.0	-
T Total		11,167	187.0	2,043.6	-	121.2	1,544.6	-	65.7	498.9	-
Total		26,946	412.3	5,833.9	-	271.9	4,568.4	-	140.5	1,265.5	-

**Appendix C2**  
**Enhanced Area Idle Test RapidScreen Audit Reductions**

<b>Type</b>	<b>Annual Miles</b>	<b>Unique Vehicles</b>	<b>Initial Tons/Yr</b>			<b>Final Tons/Yr</b>			<b>Reduction Tons/Yr</b>		
			<b>HC</b>	<b>CO</b>	<b>NOX</b>	<b>HC</b>	<b>CO</b>	<b>NOX</b>	<b>HC</b>	<b>CO</b>	<b>NOX</b>
P 1981	5,420	-	0.0	0.0		0.0	0.0		0.0	0.0	-
P 1982	5,701	-	0.0	0.0		0.0	0.0		0.0	0.0	-
P 1983	5,997	-	0.0	0.0		0.0	0.0		0.0	0.0	-
P 1984	6,308	-	0.0	0.0		0.0	0.0		0.0	0.0	-
P 1985	6,636	-	0.0	0.0		0.0	0.0		0.0	0.0	-
P 1986	6,980	-	0.0	0.0		0.0	0.0		0.0	0.0	-
P 1987	7,342	-	0.0	0.0		0.0	0.0		0.0	0.0	-
P 1988	7,723	-	0.0	0.0		0.0	0.0		0.0	0.0	-
P 1989	8,124	-	0.0	0.0		0.0	0.0		0.0	0.0	-
P 1990	8,546	-	0.0	0.0		0.0	0.0		0.0	0.0	-
P 1991	8,989	2	0.0	0.1		0.0	0.1		0.0	0.0	-
P 1992	9,456	-	0.0	0.0		0.0	0.0		0.0	0.0	-
P 1993	9,947	5	0.0	0.0		0.0	0.0		0.0	0.0	-
P 1994	10,463	1	0.0	0.0		0.0	0.0		0.0	0.0	-
P 1995	11,006	9	0.0	-0.1		0.0	-0.1		0.0	0.0	-
P 1996	11,577	-	0.0	0.0		0.0	0.0		0.0	0.0	-
P 1997	12,178	15	0.0	-0.4		0.0	-0.4		0.0	0.0	-
P 1998	12,810	-	0.0	0.0		0.0	0.0		0.0	0.0	-
P 1999	13,475	7	0.0	-0.1		0.0	-0.1		0.0	0.0	-
P 2000	14,174	-	0.0	0.0		0.0	0.0		0.0	0.0	-
P 2001	14,910	-	0.0	0.0		0.0	0.0		0.0	0.0	-
P Total		39	0.0	-0.5	-	0.0	-0.5	-	0.0	0.0	-
T 1981	4,154	-	0.0	0.0		0.0	0.0		0.0	0.0	-
T 1982	4,588	-	0.0	0.0		0.0	0.0		0.0	0.0	-
T 1983	5,055	-	0.0	0.0		0.0	0.0		0.0	0.0	-
T 1984	5,556	-	0.0	0.0		0.0	0.0		0.0	0.0	-
T 1985	6,093	-	0.0	0.0		0.0	0.0		0.0	0.0	-
T 1986	6,663	-	0.0	0.0		0.0	0.0		0.0	0.0	-
T 1987	7,269	-	0.0	0.0		0.0	0.0		0.0	0.0	-
T 1988	7,911	-	0.0	0.0		0.0	0.0		0.0	0.0	-
T 1989	8,589	2	0.0	0.2		0.0	0.2		0.0	0.0	-
T 1990	9,305	-	0.0	0.0		0.0	0.0		0.0	0.0	-
T 1991	10,057	2	0.0	0.4		0.0	0.4		0.0	0.0	-
T 1992	10,849	1	0.0	0.2		0.0	0.2		0.0	0.0	-
T 1993	11,681	4	0.0	0.5		0.1	0.7		0.0	-0.1	-
T 1994	12,553	-	0.0	0.0		0.0	0.0		0.0	0.0	-
T 1995	13,465	4	0.0	0.2		0.0	0.2		0.0	0.0	-
T 1996	14,420	2	0.0	0.0		0.0	0.1		0.0	-0.1	-
T 1997	15,417	17	0.1	0.7		0.1	0.7		0.0	0.0	-
T 1998	16,459	1	0.0	0.0		0.0	0.0		0.0	0.0	-
T 1999	17,546	22	0.1	0.5		0.1	0.5		0.0	0.0	-
T 2000	18,680	-	0.0	0.0		0.0	0.0		0.0	0.0	-
T 2001	19,863	-	0.0	0.0		0.0	0.0		0.0	0.0	-
T Total		55	0.3	2.8	-	0.3	3.0	-	0.0	-0.2	-
Total		94	0.3	2.3	-	0.3	2.5	-	0.0	-0.2	-

**Appendix C3**  
**Basic Area Idle Test Reductions**

Type	Annual Miles	Unique Vehicles	Initial Tons/Yr			Final Tons/Yr			Reduction Tons/Yr		
			HC	CO	NOX	HC	CO	NOX	HC	CO	NOX
P 1981	5,420	877	17.8	395.1		11.6	315.6		6.1	79.5	-
P 1982	5,701	117	1.4	26.3		0.7	15.5		0.7	10.8	-
P 1983	5,997	220	1.2	27.5		0.7	9.9		0.5	17.6	-
P 1984	6,308	440	3.8	67.7		1.8	22.3		1.9	45.4	-
P 1985	6,636	627	5.0	75.1		3.2	40.3		1.8	34.7	-
P 1986	6,980	793	7.1	121.5		4.4	56.5		2.7	65.0	-
P 1987	7,342	922	7.6	103.8		4.7	61.1		2.8	42.8	-
P 1988	7,723	1,318	10.3	147.7		6.8	80.4		3.5	67.4	-
P 1989	8,124	1,613	11.9	172.1		7.5	87.1		4.4	85.0	-
P 1990	8,546	1,583	10.5	159.0		6.9	73.9		3.6	85.2	-
P 1991	8,989	1,826	12.6	160.2		9.1	95.5		3.4	64.7	-
P 1992	9,456	1,845	10.1	149.2		6.6	78.9		3.5	70.3	-
P 1993	9,947	2,106	7.8	123.9		5.8	63.5		2.0	60.5	-
P 1994	10,463	1,981	3.9	65.6		2.9	33.1		1.1	32.5	-
P 1995	11,006	2,405	1.8	36.2		1.1	11.3		0.8	24.8	-
P 1996	11,577	1,978	-1.2	10.8		-1.8	-8.8		0.6	19.6	-
P 1997	12,178	2,247	-2.9	(22.9)		-3.4	-26.7		0.5	3.8	-
P 1998	12,810	1,850	-3.8	(30.5)		-3.8	-30.5		0.0	0.0	-
P 1999	13,475	2,021	-6.0	(43.9)		-6.0	-46.7		0.1	2.8	-
P 2000	14,174	522	-1.6	(12.5)		-1.6	-12.5		0.0	0.0	-
P 2001	14,910	159	-0.7	(5.3)		-0.7	-5.3		0.0	0.0	-
P Total		27,450	96.5	1,726.7	-	56.5	914.4	-	40.0	812.3	-
T 1981	4,154	1,440	32.1	506.2		19.5	395.5		12.7	110.7	-
T 1982	4,588	175	3.5	39.2		1.5	16.8		2.0	22.4	-
T 1983	5,055	294	6.2	65.8		2.5	20.5		3.7	45.3	-
T 1984	5,556	440	7.8	88.5		3.8	36.1		4.1	52.4	-
T 1985	6,093	622	13.3	160.5		6.2	65.5		7.1	95.1	-
T 1986	6,663	747	13.5	140.2		6.6	62.4		6.9	77.7	-
T 1987	7,269	849	12.1	128.4		7.9	58.4		4.2	70.0	-
T 1988	7,911	1,103	14.7	144.1		9.4	75.6		5.3	68.5	-
T 1989	8,589	1,243	19.1	159.6		12.5	85.5		6.6	74.1	-
T 1990	9,305	1,198	14.9	134.4		11.1	83.9		3.9	50.5	-
T 1991	10,057	1,274	16.1	145.4		11.5	87.9		4.6	57.4	-
T 1992	10,849	1,469	16.6	126.5		14.2	85.8		2.5	40.6	-
T 1993	11,681	1,751	21.7	166.8		16.6	115.2		5.1	51.7	-
T 1994	12,553	1,922	16.8	139.8		15.7	132.8		1.1	7.0	-
T 1995	13,465	2,142	19.2	154.2		17.1	143.5		2.1	10.7	-
T 1996	14,420	1,672	5.5	79.5		5.4	76.7		0.1	2.8	-
T 1997	15,417	2,092	5.7	98.8		5.2	90.8		0.5	8.0	-
T 1998	16,459	2,058	3.0	75.8		3.1	75.8		0.0	0.0	-
T 1999	17,546	2,173	0.4	55.5		0.4	55.4		0.0	0.1	-
T 2000	18,680	390	0.0	10.0		0.0	10.3		0.0	-0.2	-
T 2001	19,863	76	-0.1	1.5		-0.1	1.6		0.0	0.0	-
T Total		25,130	242.3	2,620.8	-	169.9	1,775.9	-	72.4	844.8	-
Total		52,580	338.8	4,347.5	-	226.4	2,690.3	-	112.4	1,657.2	-

**Appendix C3**  
**Basic Area Idle Test RapidScreen Audit Reductions**

<b>Type</b>	<b>Annual Miles</b>	<b>Unique Vehicles</b>	<b>Initial Tons/Yr</b>			<b>Final Tons/Yr</b>			<b>Reduction Tons/Yr</b>		
			<b>HC</b>	<b>CO</b>	<b>NOX</b>	<b>HC</b>	<b>CO</b>	<b>NOX</b>	<b>HC</b>	<b>CO</b>	<b>NOX</b>
P 1981	5,420	-	0.0	-		0.0	-		0.0	0.0	-
P 1982	5,701	-	0.0	-		0.0	-		0.0	0.0	-
P 1983	5,997	-	0.0	-		0.0	-		0.0	0.0	-
P 1984	6,308	-	0.0	-		0.0	-		0.0	0.0	-
P 1985	6,636	-	0.0	-		0.0	-		0.0	0.0	-
P 1986	6,980	-	0.0	-		0.0	-		0.0	0.0	-
P 1987	7,342	-	0.0	-		0.0	-		0.0	0.0	-
P 1988	7,723	-	0.0	-		0.0	-		0.0	0.0	-
P 1989	8,124	1	0.0	(0.0)		0.0	(0.0)		0.0	0.0	-
P 1990	8,546	-	0.0	-		0.0	-		0.0	0.0	-
P 1991	8,989	2	0.0	(0.0)		0.0	(0.0)		0.0	0.0	-
P 1992	9,456	-	0.0	-		0.0	-		0.0	0.0	-
P 1993	9,947	2	0.0	0.0		0.0	0.0		0.0	0.0	-
P 1994	10,463	-	0.0	-		0.0	-		0.0	0.0	-
P 1995	11,006	4	0.0	0.1		0.0	0.1		0.0	0.0	-
P 1996	11,577	2	0.0	(0.1)		0.0	(0.1)		0.0	0.0	-
P 1997	12,178	6	0.0	(0.2)		0.0	(0.2)		0.0	0.0	-
P 1998	12,810	1	0.0	(0.0)		0.0	(0.0)		0.0	0.0	-
P 1999	13,475	7	0.0	(0.2)		0.0	(0.2)		0.0	0.0	-
P 2000	14,174	-	0.0	-		0.0	-		0.0	0.0	-
P 2001	14,910	-	0.0	-		0.0	-		0.0	0.0	-
P Total		25	0.0	(0.4)	-	0.0	(0.4)	-	0.0	0.0	-
T 1981	4,154	-	0.0	-		0.0	-		0.0	0.0	-
T 1982	4,588	-	0.0	-		0.0	-		0.0	0.0	-
T 1983	5,055	-	0.0	-		0.0	-		0.0	0.0	-
T 1984	5,556	-	0.0	-		0.0	-		0.0	0.0	-
T 1985	6,093	1	0.0	0.0		0.0	0.0		0.0	0.0	-
T 1986	6,663	-	0.0	-		0.0	-		0.0	0.0	-
T 1987	7,269	-	0.0	-		0.0	-		0.0	0.0	-
T 1988	7,911	-	0.0	-		0.0	-		0.0	0.0	-
T 1989	8,589	-	0.0	-		0.0	-		0.0	0.0	-
T 1990	9,305	-	0.0	-		0.0	-		0.0	0.0	-
T 1991	10,057	-	0.0	-		0.0	-		0.0	0.0	-
T 1992	10,849	3	0.0	0.0		0.0	0.0		0.0	0.0	-
T 1993	11,681	1	0.0	0.0		0.0	0.0		0.0	0.0	-
T 1994	12,553	3	0.0	0.3		0.0	0.3		0.0	0.0	-
T 1995	13,465	5	0.0	0.1		0.0	0.1		0.0	0.0	-
T 1996	14,420	-	0.0	-		0.0	-		0.0	0.0	-
T 1997	15,417	3	0.0	0.1		0.0	0.1		0.0	0.0	-
T 1998	16,459	2	0.0	0.0		0.0	0.0		0.0	0.0	-
T 1999	17,546	5	0.0	0.0		0.0	0.0		0.0	0.0	-
T 2000	18,680	-	0.0	-		0.0	-		0.0	0.0	-
T 2001	19,863	-	0.0	-		0.0	-		0.0	0.0	-
T Total		23	0.0	0.6	-	0.0	0.6	-	0.0	0.0	-
Total		48	0.0	0.3	-	0.0	0.3	-	0.0	0.0	-

**Appendix C4**  
**Enhanced and Basic IM240 Equivalent Tons Per Year Reduction**

Type	Unique Vehicles	HC Tons/Year			CO Tons/Year			NOx Tons/Year		
		After I/M Emissions	Enhanced Reduction	Basic Reduction	After I/M Emissions	Enhanced Reduction	Basic Reduction	After I/M Emissions	Enhanced Reduction	Basic Reduction
P 1981	9,986	146	60	6	3,276	645	79	19	2	-
P 1982	784	7	4	1	104	51	11	8	1	-
P 1983	4,237	35	15	0	469	239	18	58	3	-
P 1984	2,753	23	11	2	304	174	45	33	3	-
P 1985	11,375	98	38	2	1,168	583	35	167	8	-
P 1986	5,230	45	17	3	503	213	65	69	5	-
P 1987	17,503	134	42	3	1,365	551	43	281	8	-
P 1988	8,004	62	17	4	579	226	67	111	3	-
P 1989	28,008	200	42	4	1,839	587	85	460	6	-
P 1990	10,178	73	20	4	710	257	85	162	3	-
P 1991	34,238	187	51	3	2,088	739	65	500	31	-
P 1992	11,416	62	17	3	697	249	70	142	8	-
P 1993	39,802	198	39	2	2,212	588	60	570	16	-
P 1994	12,033	48	8	1	517	89	32	125	3	-
P 1995	46,690	151	22	1	1,613	239	25	464	6	-
P 1996	12,037	24	2	1	300	32	20	87	1	-
P 1997	43,890	80	5	1	968	84	4	326	2	-
P 1998	15,786	21	1	0	298	12	0	86	0	-
P 1999	48,925	45	2	0	722	61	3	243	1	-
P 2000	15,354	11	0	0	174	6	0	62	0	-
P 2001	7,203	2	0	0	46	1	0	17	0	-
P Total	385,432	1,654	414	40	19,952	5,625	812	3,989	111	-
T 1981	6,000	90	39	13	1,514	238	111	10	1	-
T 1982	521	6	2	2	74	16	22	5	0	-
T 1983	2,123	29	7	4	366	72	45	26	1	-
T 1984	1,391	17	7	4	216	98	52	13	1	-
T 1985	5,028	61	26	7	812	253	95	68	4	-
T 1986	2,503	30	11	7	336	101	78	30	2	-
T 1987	8,146	96	21	4	968	211	70	145	3	-
T 1988	3,770	42	10	5	371	85	68	56	3	-
T 1989	12,458	149	31	7	1,412	352	74	257	9	-
T 1990	3,855	45	9	4	410	89	50	68	2	-
T 1991	15,000	165	24	5	1,629	289	57	318	8	-
T 1992	5,053	56	8	2	495	99	41	92	1	-
T 1993	19,767	221	21	5	2,038	247	52	524	6	-
T 1994	7,025	70	4	1	670	35	7	133	2	-
T 1995	24,307	231	11	2	2,416	102	11	600	5	-
T 1996	6,784	28	1	0	373	13	3	85	2	-
T 1997	25,476	89	3	0	1,330	53	8	372	4	-
T 1998	11,212	32	0	0	491	2	0	130	1	-
T 1999	33,707	73	1	0	976	15	0	350	1	-
T 2000	7,860	13	0	0	191	1	0	63	0	-
T 2001	2,802	3	0	0	59	0	0	15	0	-
T Total	204,788	1,548	234	72	17,147	2,371	845	3,361	55	-
Total	590,220	3,202	649	112	37,099	7,996	1,657	7,349	166	-

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